YAMAHA

U

RX-V1065

AV Receiver

OWNER'S MANUAL

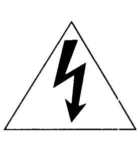
IMPORTANT SAFETY INSTRUCTIONS

CAUTION

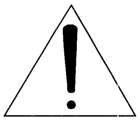
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to CATV system installer:

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

FCC INFORMATION (for US customers)

1. **IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!** This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices.
   This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices.

Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., U.S.A. 6660 Orangethorpe Ave, Buena Park, CA 90620.

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

Caution: Read this before operating your unit.

1. To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
2. Install this sound system in a well ventilated, cool, dry, clean place – away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold. Allow ventilation space of at least 30 cm on the top, 20 cm on the left and right, and 20 cm on the back of this unit.
3. Locate this unit away from other electrical appliances, motors, or transformers to avoid humming sounds.
4. Do not expose this unit to sudden temperature changes from cold to hot, and do not locate this unit in an environment with high humidity (i.e. a room with a humidifier) to prevent condensation inside this unit, which may cause an electrical shock, fire, damage to this unit, and/or personal injury.
5. Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:
   - Other components, as they may cause damage and/or discoloration on the surface of this unit.
   - Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
   - Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.
6. Do not cover this unit with a newspaper, tablecloth, curtain, etc. in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.
7. Do not plug in this unit to a wall outlet until all connections are complete.
8. Do not operate this unit upside-down. It may overheat, possibly causing damage.
9. Do not use force on switches, knobs and/or cords.
10. When disconnecting the power cable from the wall outlet, grasp the plug; do not pull the cable.
11. Do not clean this unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.
12. Only voltage specified on this unit must be used. Using this unit with a higher voltage than specified is dangerous and may cause fire, damage to this unit, and/or personal injury. Yamaha will not be held responsible for any damage resulting from use of this unit with a voltage other than specified.
13. To prevent damage by lightning, keep the power cord and outdoor antennas disconnected from a wall outlet or the unit during a lightning storm.
14. Do not attempt to modify or fix this unit. Contact qualified Yamaha service personnel when any service is needed. The cabinet should never be opened for any reasons.
15. When not planning to use this unit for long periods of time (i.e. vacation), disconnect the AC power plug from the wall outlet.
16. Install this unit near the AC outlet and where the AC power plug can be reached easily.
17. Be sure to read the "Troubleshooting" section on common operating errors before concluding that this unit is faulty.
18. Before moving this unit, press Ⓚ**MAIN ZONE ON/OFF** to set this unit to the standby mode, and disconnect the AC power plug from the wall outlet in the main room.
19. VOLTAGE SELECTOR (Asia and General models only)
    The VOLTAGE SELECTOR on the rear panel of this unit must be set for your local main voltage BEFORE plugging into the AC wall outlet. Voltages are:
    ..... AC 110/120/220/230-240 V, 50/60 Hz (General model)
    ....AC 220/230-240 V, 50/60 Hz (Asia model)
20. The batteries shall not be exposed to excessive heat such as sunshine, fire or like.
21. Excessive sound pressure from earphones and headphones can cause hearing loss.
22. When replacing the batteries, be sure to use batteries of the same type. Danger of explosion may happen if batteries are incorrectly replaced.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by Ⓚ**MAIN ZONE ON/OFF**. In this state, this unit is designed to consume a very small quantity of power.

FOR CANADIAN CUSTOMERS

To prevent electric shock, match wide blade of plug to wide slot and fully insert.
This Class B digital apparatus complies with Canadian ICES-003.

POUR LES CONSOMMATEURS CANADIENS

Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IMPORTANT

Please record the serial number of this unit in the space below.
MODEL:
Serial No.:
The serial number is located on the rear of the unit.
Retain this Owner's Manual in a safe place for future reference.

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(at the end of this manual)

List of remote control codes .... **i**

INTRODUCTION

Features

■ Built-in 7-channel power amplifier

- Minimum RMS Output Power (20 Hz to 20 kHz, 0.08% THD, 8 Ω)
- FRONT L/R: 105 W + 105 W
- CENTER: 105 W
- SURROUND L/R: 105 W + 105 W
- SURROUND BACK L/R: 105 W + 105 W

■ Speaker/Preout outputs

- Speaker terminals (7-channel), extra speaker terminals (2-channel for presence or Zone2), preout jacks (7.1-channel)

■ Input/Output terminals

Input terminals

- HDMI input x 4
- Audio/Visual input
  [Audio] Digital input (coaxial) x 2, digital input (optical) x 2, analog input x 2
  [Video] Component video x 2, Video x 4
- Audio input (analog) x 2
- Phono input (analog) x 1
- Multi-channel audio input (7.1-channel)
- V-AUX input
  [Audio] Analog x 1
  [Video] Video x 1
- DOCK terminal to connect a Yamaha iPod universal dock (such as YDS-11, sold separately) or Bluetooth wireless audio receiver (such as YBA-10, sold separately)
- USB port to connect a USB storage device

Output terminals

- Monitor output
  [Audio/Video] HDMI x 1
  [Video] Component video x 1, Video x 1
- Audio/Visual output
  [Audio] Analog x 1
  [Video] Video x 1
- Audio output
  Analog x 1
- Zone2 output
  Analog x 1

Other terminals

Remote input x 1, Remote output x 1
Trigger output x 1

■ Proprietary Yamaha technology for the creation of sound fields

- CINEMA DSP 3D
- Compressed Music Enhancer mode
- Virtual CINEMA DSP
- SILENT CINEMA

■ Digital audio decoders

- Dolby TrueHD, Dolby Digital Plus decoder
- DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express
- Dolby Digital/Dolby Digital EX decoder
- DTS, DTS 96/24 decoder, DTS-ES Matrix 6.1, DTS-ES Discrete 6.1
- Dolby Pro Logic/Dolby Pro Logic II/Dolby Pro Logic IIx decoder
- DSD decoder
- DTS NEO:6 decoder
- Neural Surround decoder (U.S.A. model only)

■ Radio tuners

- FM/AM tuning capability
- HD Radio digital broadcast reception capability (U.S.A. model only)
- XM Satellite Radio tuning capability, using XM Mini-Tuner and Home Dock, sold separately (U.S.A. model only)
- SIRIUS Satellite Radio tuning capability, using SiriusConnect tuner, sold separately (U.S.A. model only)

■ HDMI™ (High-Definition Multimedia Interface)

- HDMI interface for standard, enhanced or high-definition video as well as multi-channel digital audio.
  - Automatic audio and video synchronization (lip sync) information capability
  - Deep Color video signal (30/36 bit) transmission capability
  - "x.v.Color" video signal transmission capability
  - High refresh rate and high resolution video signals capability
  - High definition digital audio format signals capability
- Analog to analog and HDMI digital video up-conversion (video ↔ component video → HDMI) capability for monitor out
- Analog video input up-scaling for HDMI digital video output 480i(576i) or 480p(576p) → 720p, 1080i or 1080p
- HDMI control function supported

■ Automatic speaker setup features

- "YPAO" (Yamaha Parametric Room Acoustic Optimizer) for automatically optimizing speaker outputs suitable for listening environments.

■ Other features

- 192-kHz/24-bit D/A converter
- GUI (graphic user interface) menus to optimize this unit to suit individual audiovisual system
- iPod and USB file browsing and album art display capability
- Pure Direct mode for pure hi-fi sound for all sources
- Adaptive dynamic range controlling capability
- SCENE function for changing input sources and sound field programs with one key
- Bi-amplification connection capability
- Sleep timer
- Multi-zone function
- iTunes Tagging function (U.S.A. model only)

About this manual

- Some operations can be performed by using either the keys on the front panel or the ones on the remote control. In case the key names differ between the front panel and the remote control, the key name on the remote control is given in parentheses.
- This manual is printed prior to production. Design and specifications are subject to change in part as a result of improvements, etc. In case of differences between the manual and product, the product has priority.
- For better viewing, we increase the size of characters used in example screen images in this manual. Therefore the size ratio of characters to other objects (such as icons) may be different from that of the actual display image.
- "Ⓚ**MAIN ZONE ON/OFF**" or "4**HDMI 1**" (example) indicates the name of the parts on the front panel or the remote control. Refer to the attached sheet or "Part names and functions" (page 4).for the information about each position of the parts.
- ☞ indicates the page describing the related information.
- ☀ indicates a tip for your operation.

Manufactured under license from Dolby Laboratories.
Dolby, Pro Logic and the double-D symbol are trademarks of Dolby Laboratories

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iPod™

"iPod" is a trademark of Apple Inc., registered in the U.S. and other countries.

Bluetooth™

Bluetooth is a registered trademark of Bluetooth SIG and is used by Yamaha in accordance with a license agreement.

"HDMI", the "HDMI" logo and "High-Definition Multimedia Interface" are trademarks, or registered trademarks of HDMI Licensing LLC.

x.v.Color

"x.v.Color" is a trademark of Sony Corporation.

"SILENT CINEMA" is a trademark of Yamaha Corporation.

SIRIUS, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All rights reserved. **Service not available in Alaska and Hawaii.**

HD Radio™ Technology Manufactured Under License From iBiquity Digital Corp. U.S. and Foreign Patents. HD Radio™ and the HD Radio logo are proprietary trademarks of iBiquity Digital Corp.

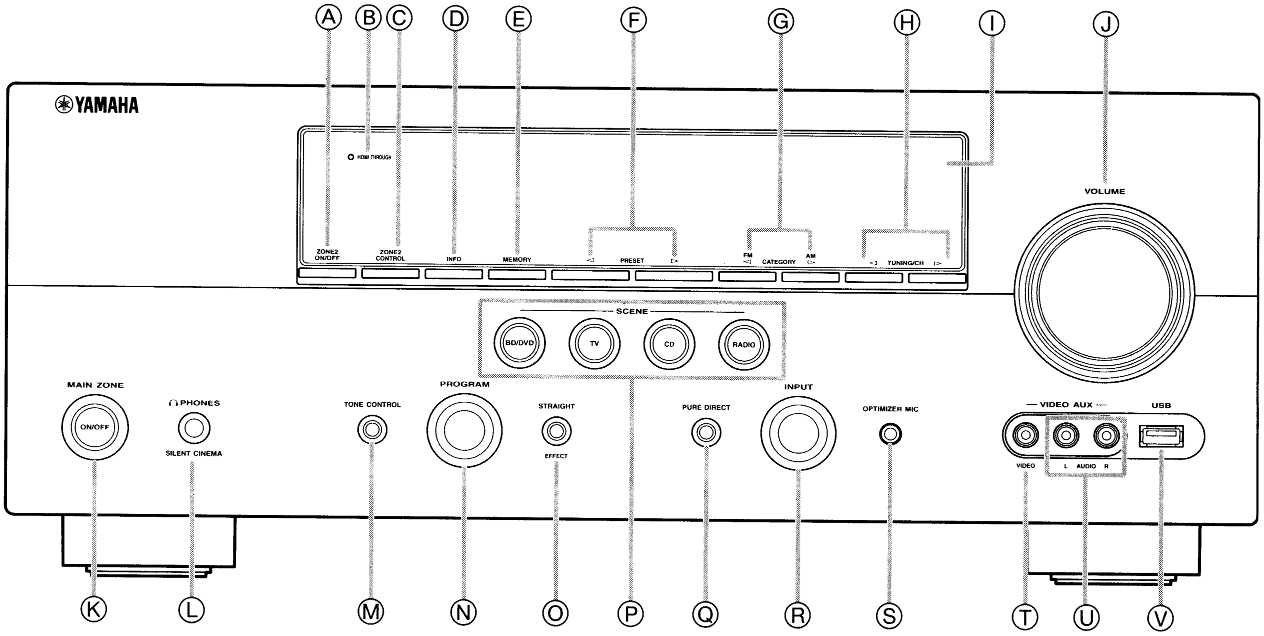
Supplied accessories

Check that you received all of the following parts.

- Remote control (page 7)
- Batteries (2) (AAA, R03, UM-4) (page 9)
- Optimizer microphone (page 19)
- AM loop antenna (page 18)
- Indoor FM antenna (page 18)

Part names and functions

Front panel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YAMAHA
HDMI THROUGH
ZONE2 ON/OFF
ZONE2 CONTROL
INFO
MEMORY
◁ PRESET ▷
FM ◁ CATEGORY AM ▷
◁ TUNING/CH ▷
VOLUME
SCENE
BD/DVD
TV
CD
RADIO
MAIN ZONE
ON/OFF
PHONES
SILENT CINEMA
TONE CONTROL
PROGRAM
STRAIGHT
EFFECT
PURE DIRECT
INPUT
OPTIMIZER MIC
— VIDEO AUX —
USB
VIDEO
L AUDIO R
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Ⓐ **ZONE2 ON/OFF**

Switches the zone function on and off (page 62).

Ⓑ **HDMI THROUGH**

Lights up in the following cases while this unit is on standby.

- when the HDMI control function is on
- when the HDMI signal standby-through function is currently working

Ⓒ **ZONE2 CONTROL**

Enables operation of a receiver set in Zone2, including input source switching, volume control and tuner operation, with the main amplifier or remote control after this key is pressed (page 62).

Ⓓ **INFO**

Changes information (input, DSP program, audio decoder, etc) displayed on the front panel display (page 24).

Ⓔ **MEMORY**

Registers FM/AM stations as preset stations (page 30) or XM/SIRIUS channels as preset channels (pages 35 and 39).

Ⓕ **PRESET ◁ / ▷**

Selects an FM/AM preset station (page 30) or an XM/SIRIUS preset channel (pages 35 and 39).

Ⓖ **FM/AM (CATEGORY ◁ / ▷)**

Change the tuner bands between FM and AM.
Select a channel category for a XM/SIRIUS.

Ⓗ **TUNING/CH ◁ / ▷**

Changes FM/AM frequencies or XM/SIRIUS tuner channels.

Ⓘ **Front panel display**

Displays information on this unit (page 6).

Ⓙ **VOLUME control**

Controls the volume of this unit (page 22).

Ⓚ **MAIN ZONE ON/OFF**

Turns this unit on and off (page 18).

Ⓛ **PHONES jack**

For plugging headphones (page 24).

Ⓜ **TONE CONTROL**

Adjusts high-frequency/low-frequency output of speakers (page 23).

Ⓝ **PROGRAM selector**

Changes sound field programs (page 25).

Ⓞ **STRAIGHT**

Toggles between the selected sound field program and straight decode mode (page 28).

Ⓟ **SCENE**

Switches between linked sets of input sources and sound field programs (page 22).

Ⓠ **PURE DIRECT**

Changes mode to Pure Direct mode (page 23). This key lights up when Pure Direct mode is on.

Ⓡ **INPUT selector**

Selects an input source (page 22).

Ⓢ **OPTIMIZER MIC jack**

For connecting the supplied optimizer microphone and adjusting output characteristics of speakers (page 19).

Ⓣ **VIDEO (VIDEO AUX) jack**

For connecting the video output cable of a camcorder or game console (page 17).

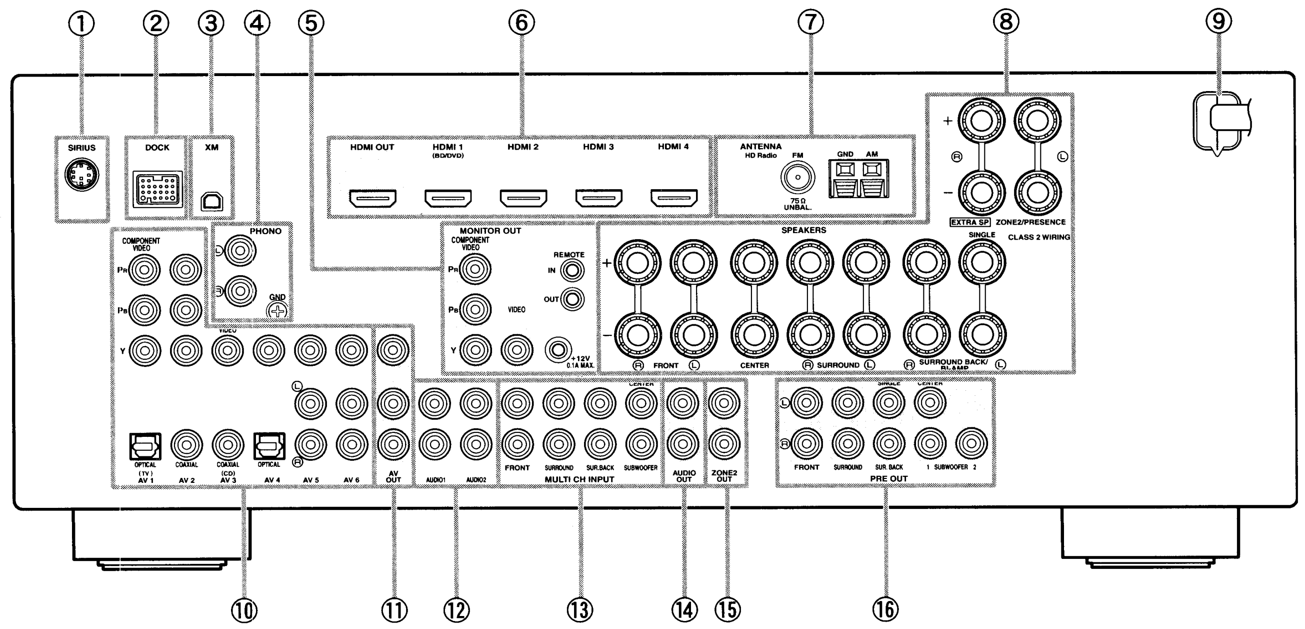
Ⓤ **AUDIO L/R (VIDEO AUX) jack**

For connecting the audio output cable of a camcorder or game console (page 17).

Ⓥ **USB port**

For connecting a USB memory device or USB portable audio player (page 17)

Rear panel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SIRIUS
DOCK
XM
PHONO
GND
COMPONENT VIDEO
HDMI OUT
HDMI 1 (BD/DVD)
HDMI 2
HDMI 3
HDMI 4
ANTENNA HD Radio
FM
GND
AM
75Ω UNBAL.
MONITOR OUT
REMOTE IN
OUT
VIDEO
+12V 0.1A MAX.
SPEAKERS
EXTRA SP ZONE2/PRESENCE
SINGLE
CLASS 2 WIRING
FRONT
CENTER
SURROUND
SURROUND BACK/BI-AMP
OPTICAL (TV) AV 1
COAXIAL AV 2
COAXIAL (CD) AV 3
OPTICAL AV 4
AV 5
AV 6
AV OUT
AUDIO1
AUDIO2
FRONT
SURROUND
SUR.BACK
SUBWOOFER
MULTI CH INPUT
AUDIO OUT
ZONE2 OUT
FRONT
SURROUND
SUR.BACK
1 SUBWOOFER 2
PRE OUT
⑩
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⑯

① **SIRIUS jack**
For connecting a SiriusConnect tuner (sold separately) (page 37).

② **DOCK terminal**
For connecting an optional Yamaha iPod universal dock (YDS-11) or Bluetooth wireless audio receiver (YBA-10) (page 17).

③ **XM jack**
For connecting XM Mini-Tuner in XM Mini-Tuner Home Dock (sold separately) (page 33).

④ **PHONO jacks**
For connecting a turntable (page 15).

⑤ **MONITOR OUT jacks**
Outputs visual signals from this unit to a video monitor, such as a TV (page 14).

REMOTE IN/OUT jacks
For connecting an external component that supports the remote control function (page 17).

TRIGGER OUT jack
For connecting an external terminal with a trigger input terminal to operate it linked with operation of this unit. For example, when an electric screen that supports a trigger input is connected, it opens and closes linked with operation of an input source selected in this unit.

⑥ **HDMI OUT/HDMI 1-4 jacks**
For connecting an HDMI-compatible video monitor or external components for HDMI inputs 1-4 (pages 14 and 15).

⑦ **ANTENNA terminals**
For connecting supplied FM and AM antennas (page 18).

⑧ **SPEAKERS terminals**
For connecting front, center, surround and surround back speakers (page 11). Connect the presence speakers (page 11) or the speakers for Zone2 (page 61) to EXTRA SP terminals.

⑨ **Power cable**
Connect this cable to an AC wall outlet (page 18).

⑩ **AV 1-6 jacks**
For connecting external components for audio/visual inputs 1-6 (page 15).

⑪ **AV OUT jacks**
Outputs audio/visual signals from a selected analog input source to an external component (page 15).

⑫ **AUDIO 1/2 jacks**
For connecting external components for audio inputs 1-2 (page 15).

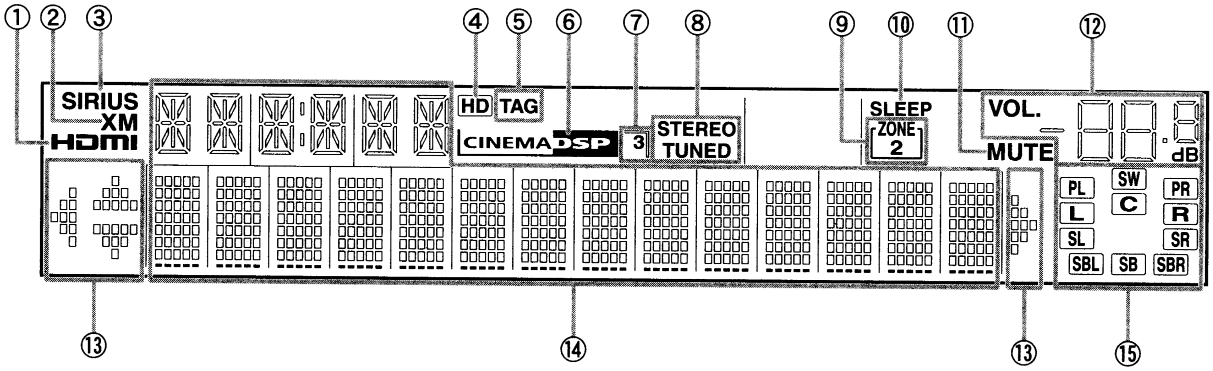
⑬ **MULTI CH INPUT jacks**
For connecting a player that supports a multi-channel output (page 16).

⑭ **AUDIO OUT jacks**
Outputs audio signals from a selected analog input source to an external component (page 15).

⑮ **ZONE2 OUT jacks**
Outputs sound of this unit to an external amplifier set in a different zone (page 61).

⑯ **PRE OUT jacks**
Outputs multi-channel signals from up to 7.1 channels to an external amplifier (page 16).

Front panel display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⑫
SIRIUS
XM
HDMI
HD
TAG
CINEMA DSP
3
STEREO
TUNED
SLEEP
ZONE 2
VOL.
MUTE
dB
PL
SW
PR
L
C
R
SL
SR
SBL
SB
SBR
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① **HDMI indicator**
Lights up during normal communication when HDMI is selected as an input source.

② **XM indicator**
Lights up when an XM tuner is selected as an input source.

③ **SIRIUS indicator**
Lights up when a SiriusConnect tuner is selected as an input source.

④ **HD indicator**
Lights up when this unit is tuned into the HD Radio reception band (page 31).

⑤ **TAG indicator**
Lights up when the selected HR Radio program (or song being played) supports the iTunes Tagging feature (page 31).

⑥ **CINEMA DSP indicator**
Lights up when a sound field program that uses CINEMA DSP is selected.

⑦ **CINEMA DSP 3D indicator**
Lights up when CINEMA DSP 3D is activated.

⑧ **Tuner indicator**
Lights up during receiving radio broadcast signals from an FM/AM station (page 29).

⑨ **ZONE2 indicator**
Lights up when Zone2 is turned on.

⑩ **SLEEP indicator**
Lights up when the sleep timer is activated (page 46).

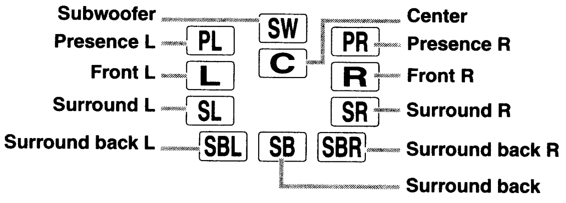
⑪ **MUTE indicator**
Flashes when audio is muted.

⑫ **VOLUME indicator**
Displays volume levels.

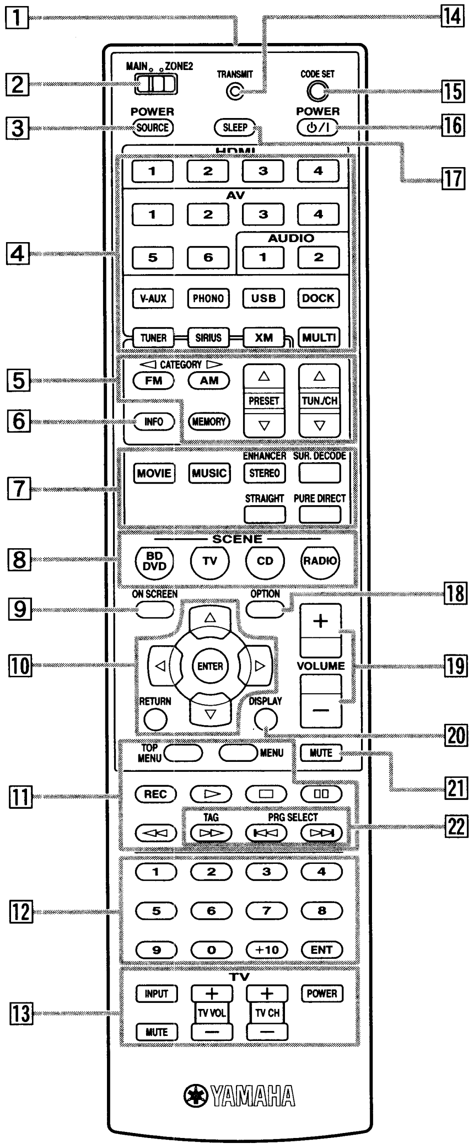
⑬ **Cursor indicators**
Light up if corresponding cursors on the remote control are available for operations.

⑭ **Multi information display**
Displays menu items and settings for the current operation.

⑮ **Speaker indicators**
Indicate speaker terminals from which signals are currently output.


Subwoofer
Presence L
Front L
Surround L
Surround back L
PL
SW
C
L
SL
SBL
SB
SBR
PR
R
SR
Center
Presence R
Front R
Surround R
Surround back R
Surround back

Remote control


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
MAIN
ZONE2
TRANSMIT
CODE SET
POWER
SOURCE
SLEEP
POWER
HDMI
1
2
3
4
AV
1
2
3
4
AUDIO
5
6
1
2
V-AUX
PHONO
USB
DOCK
TUNER
SIRIUS
XM
MULTI
◁ CATEGORY ▷
FM
AM
PRESET
TUN./CH
INFO
MEMORY
ENHANCER
SUR. DECODE
MOVIE
MUSIC
STEREO
STRAIGHT
PURE DIRECT
SCENE
BD DVD
TV
CD
RADIO
ON SCREEN
OPTION
ENTER
VOLUME
RETURN
DISPLAY
TOP MENU
MENU
MUTE
REC
TAG
PRG SELECT
1
2
3
4
5
6
7
8
9
0
+10
ENT
TV
INPUT
TV VOL
TV CH
POWER
MUTE
YAMAHA

1 **Remote control signal transmitter**

Transmits infrared signals.

2 **MAIN/ZONE2**

Switches amplifiers (Main or Zone2) to be operated by the remote control (page 62).

3 **SOURCE POWER**

Switches an external component on and off.

4 **Input selection keys**

HDMI 1-4	Selects HDMI inputs 1 through 4.
AV 1-6	Selects AV inputs 1 through 6.
AUDIO 1/2	Selects AUDIO inputs 1 and 2.
V-AUX	Selects a signal input from the VIDEO AUX jacks.
PHONO	Selects a signal input from the PHONO jacks.
USB	Selects a USB device connected to the USB port.
DOCK	Selects a Yamaha iPod universal dock/Bluetooth wireless audio receiver connected to the DOCK terminal.
TUNER	Selects the FM/AM tuner.
SIRIUS	Selects a SiriusConnect tuner as an input source.
XM	Selects an XM tuner as an input source.
MULTI	Selects a signal input from the MULTI CH INPUT jacks.

5 **Tuner keys**

FM/AM	Switches a band between FM and AM.
(CATEGORY ◁ / ▷)	Select a channel category for XM/SIRIUS.
MEMORY	Presets radio stations.
PRESET △ / ▽	Selects a preset station.
TUN./CH △ / ▽	Changes FM/AM frequencies or XM/SIRIUS tuner channels.

6 **INFO**

Changes the information shown on the front panel display (page 24).

7 **Sound selection keys**

Selects sound field programs (page 25).

8 **SCENE**

Switches between linked sets of input sources and sound field programs (page 22).

9 **ON SCREEN**

Displays the GUI screen (page 23).

10 **Cursors △ / ▽ / ◁ / ▷**	Select menu items or change settings.
ENTER	Confirms a selected item.
RETURN	Returns to the previous screen or ends the menu display.

11 **External component operation keys**

Operate recording, playback etc. of external components (page 63).

12 **Numeric keys**

Enter numbers.

13 **TV control keys**

Enables operations of a TV or a projector (page 63).

14 **TRANSMIT**

Lights up when a signal is output from the remote control.

15 **CODE SET**

Sets remote control codes for external component operations (page 63).

16 **POWER**

Switches this unit on and standby (page 18).

17 **SLEEP**

Switches the sleep timer operations (page 46).

18 **OPTION**

Displays the Option menu (page 47).

19 **VOLUME +/–**

Adjust the volume of this unit (page 22).

20 **DISPLAY**

Displays the play information on the video monitor.

When an iPod is connected: Changes the operation mode of the iPod connected to the Yamaha iPod universal dock (page 42).

21 **MUTE**

Turns the mute function on and off (page 23).

22 **HD Radio keys**

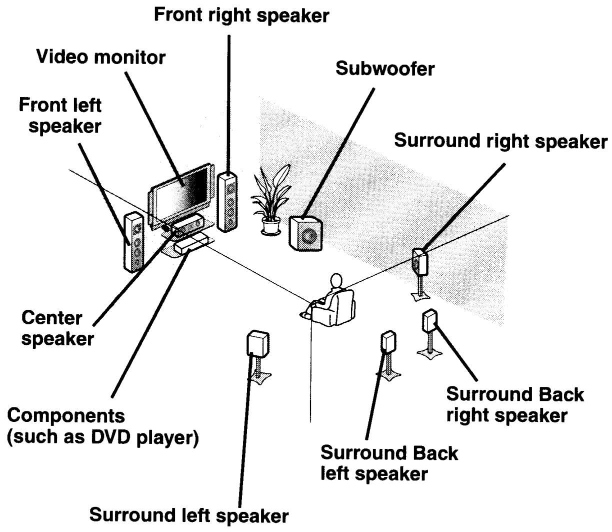
TAG	Stores "tag" data to the iPod or internal memory of this unit (page 31).
PRG SELECT	Selects an HD Radio audio program (page 31).

Quick start guide

When you use this product for the first time, perform setup following the steps below. See the related pages for details on operations and settings.

Step 1: Prepare items for setup

Prepare speakers, DVD player, cables, and other items necessary for setup.
For example, prepare the following items for setting up a 7.1-channel sound system.



Requirements		qty.
Speakers	**Front speaker**	2
	Center speaker	1
	Surround speaker	2
	Surround back speaker	2
Active subwoofer		1
Speaker cable		7
Subwoofer cable		1
Reproduction component such as DVD player		1
Video monitor such as TV		1
Video cable or HDMI cable		2
Audio cable		2

- Prepare two magnetically shielded speakers (for front). The priority of the requirement of other speakers is as follows:
  1 Two surround speakers
  2 One center speaker
  3 One (or two) surround back speaker(s)
- If your video monitor is a CRT, we recommend that you use magnetically shielded speakers.
- Video and audio cables are unnecessary if you use HDMI cables.

Step 2: Set up your speakers

Place your speakers in the room and connect them to this unit.

- Placing speakers ☞P. 10
- Connecting speakers ☞P. 11

- This unit has a YPAO (Yamaha Parametric Room Acoustic Optimizer) that automatically optimizes this unit based on room acoustic characteristics (audio characteristics of the speakers, speaker positions, and room acoustics, etc.).
  You can enjoy good balanced sound without special knowledge by using the YPAO technology (☞P. 19).

Step 3: Connect your components

Connect your TV, DVD player, or other components.

- Connecting a TV monitor or projector ☞P. 14
- Connecting other components ☞P. 15
- Connecting a multi-format player or an external decoder ☞P. 16
- Connecting an external amplifier ☞P. 16
- Connecting a USB storage device ☞P. 17
- Connecting a Yamaha iPod universal dock or Bluetooth wireless audio receiver ☞P. 17
- Connecting the FM and AM antennas ☞P. 18
- Connecting an XM Mini-Tuner Home Dock ☞P. 33
- Connecting a SiriusConnect tuner ☞P. 37

Step 4: Turn on the power

Connect the power cable and turn on this unit.

- Connecting the power cable ☞P. 18
- Turning this unit on and off ☞P. 18

Step 5: Select the input source and start playback

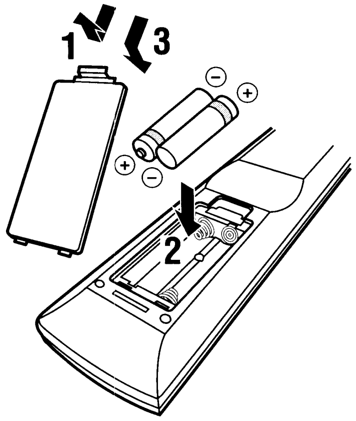
Select the component connected in step 3 as an input source and start playback.

- Basic procedure ☞P. 22
- Selecting sound field programs ☞P. 25

- This unit supports the SCENE function (page 22) that changes the input source and sound field program at one time. Four scenes are preset for different purposes for Blu-ray disc, DVD and CD, and you can select from a scene from those just by pressing a remote control key.

Preparing remote control

Installing batteries in the remote control



1 Take off the battery compartment cover.

2 Insert the two supplied batteries (AAA, R03, UM-4) according to the polarity markings (+ and –) on the inside of the battery compartment.

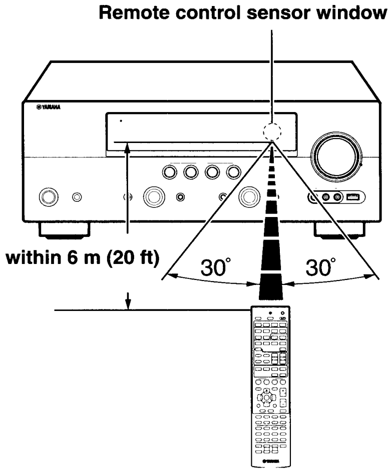
3 Snap the battery compartment cover back into place.

Notes

- Change all batteries if you notice the following conditions:
  - the operation range of the remote control narrows
  - the transmit indicator does not flash or is dim
- Do not use old batteries together with new ones.
  This may shorten the life of the new batteries or cause old batteries to leak.
- Do not use different types of batteries (such as alkaline and manganese batteries) together. Specification of batteries may be different even though they look the same.
- If you find leaking batteries, discard the batteries immediately, taking care not to touch the leaked material. If the leaked material comes into contact with your skin or gets into your eyes or mouth, rinse it away immediately and consult a doctor. Clean the battery compartment thoroughly before installing new batteries.
- Dispose of the old batteries correctly in accordance with your local regulations.
- If the remote control is without batteries for more than 2 minutes, or if exhausted batteries remain in the remote control, the contents of the memory may be cleared. In such a case, install new batteries and set the remote control code.

Using the remote control

The remote control transmits a directional infrared ray. Be sure to aim the remote control directly at the remote control sensor on this unit during operation.



Notes

- Do not spill water or other liquids on the remote control.
- Do not drop the remote control.
- Do not leave or store the remote control in the following conditions:
  - places of high humidity, such as near a bath
  - places of high temperatures, such as near a heater or stove
  - places of extremely low temperatures
  - dusty places

- You can operate external components with this remote control by setting the remote control code (page 63).

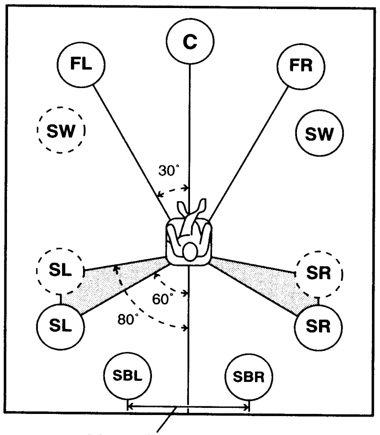
PREPARATION

English

Placing speakers

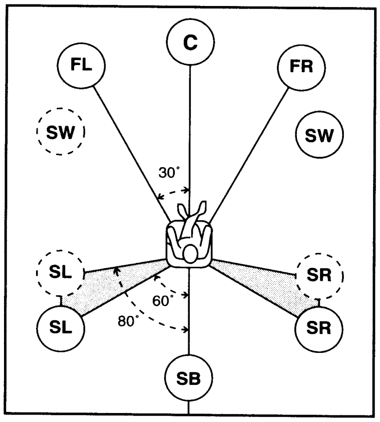
This unit supports up to 7.1-channel surround. We recommended the following speaker layout in order to obtain the optimum surround effect.

7.1-channel speaker layout

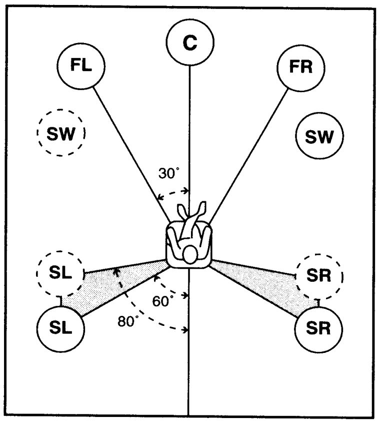


30 cm (12 in) or more

6.1-channel speaker layout



5.1-channel speaker layout



Speaker channels

■ Front left and right speakers (FL and FR)

The front speakers are used for the front channel sounds (stereo sound) and effect sounds. Place these speakers at an equal distance from the ideal listening position. When using a screen, the appropriate top positions of the speakers are about 1/4 of the screen from the bottom.

■ Center speaker (C)

The center speaker is for the center channel sounds (dialog, vocals, etc.). Place it halfway between the left and right speakers. When using a TV, place the speaker just above or just under the center of the TV with the front surfaces of the TV and the speaker aligned. When using a screen, place it just under the center of the screen.

■ Surround left and right speakers (SL and SR)

The surround speakers are used for effect and surround sounds. Place them at the rear left and rear right facing the listening position. To obtain a natural sound flow in the 5.1-channel speaker layout, place them slightly further back than in the 7.1-channel speaker layout.

■ Surround back left and right speakers (SBL and SBR) / Surround back speaker (SB)

The surround back left and right speakers are used for rear effect sounds. Place them at the rear of the room facing the listening position at least 30 cm (1 ft) away from each other, ideally at the same distance as that between the front left and right speakers.

In the 6.1-channel speaker layout, surround back left and right channel sound signals are mixed down and output from the single surround back speaker.

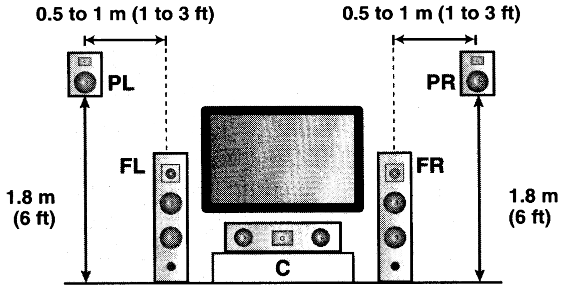
In the 5.1-channel speaker layout, surround back left and right channel sound signals are output from the surround left and right speakers.

■ Subwoofer (SW)

The subwoofer speaker is used for bass sounds and low-frequency effect (LFE) sounds included in Dolby Digital and DTS signals. Use a subwoofer with a built-in amplifier, such as the Yamaha Active Servo Processing Subwoofer System. Place it exterior to the front left and right speakers facing slightly inward to reduce reflections from a wall.

■ Presence left and right speakers (PL and PR)

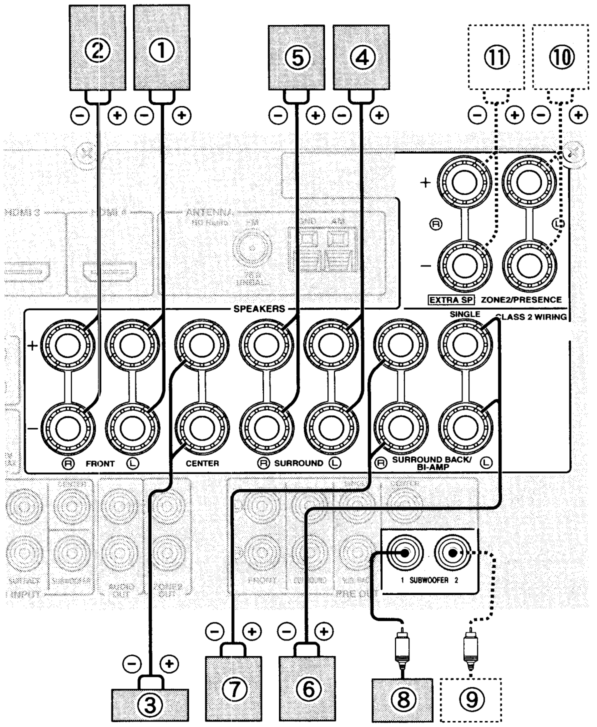
The presence speakers supplement the sound from the front speakers with extra ambient effects produced by the sound field programs (page 25). We recommend that you use the presence speakers especially for the CINEMA DSP sound field programs. To use the presence speakers, connect the speakers to EXTRA SP terminals and then set "Extra Speaker Assignment" to "Presence" (page 56).



Connecting speakers

Connect your speakers to the respective terminals as follows, according to your speaker layout.

- Connect optional presence speakers or Zone2 speakers (page 61) to the EXTRA SP terminals.
- You can connect up to two subwoofers. When two subwoofers are connected, the same sound is output from them.



■ 7.1-channel (with presence speakers)

Speakers	Jacks on this unit
① Front speaker L	**FRONT (L)**
② Front speaker R	**FRONT (R)**
③ Center speaker	**CENTER**
④ Surround speaker L	**SURROUND (L)**
⑤ Surround speaker R	**SURROUND (R)**
⑥ Surround back speaker L	**SURROUND BACK/BI-AMP (L)**
⑦ Surround back speaker R	**SURROUND BACK/BI-AMP (R)**
⑧ Subwoofer 1	**SUBWOOFER 1**
⑨ Subwoofer 2 (optional)	**SUBWOOFER 2**
⑩ Presence speaker L (optional)	**EXTRA SP (L)**
⑪ Presence speaker R (optional)	**EXTRA SP (R)**

■ 6.1-channel (with Zone2 speakers)

Speakers	Jacks on this unit
① Front speaker L	**FRONT (L)**
② Front speaker R	**FRONT (R)**
③ Center speaker	**CENTER**
④ Surround speaker L	**SURROUND (L)**
⑤ Surround speaker R	**SURROUND (R)**
⑥ Surround back speaker	**SURROUND BACK/BI-AMP (SINGLE)**
⑧ Subwoofer 1	**SUBWOOFER 1**
⑨ Subwoofer 2 (optional)	**SUBWOOFER 2**
⑩ Zone2 speaker L (optional)	**EXTRA SP (L)**
⑪ Zone2 speaker R (optional)	**EXTRA SP (R)**

■ 5.1-channel (with Zone2 speakers)

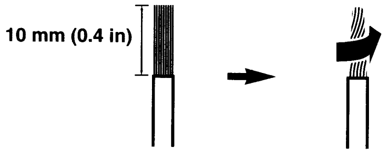
Speakers	Jacks on this unit
① Front speaker L	**FRONT (L)**
② Front speaker R	**FRONT (R)**
③ Center speaker	**CENTER**
④ Surround speaker L	**SURROUND (L)**
⑤ Surround speaker R	**SURROUND (R)**
⑧ Subwoofer 1	**SUBWOOFER 1**
⑨ Subwoofer 2 (optional)	**SUBWOOFER 2**
⑩ Zone2 speaker L (optional)	**EXTRA SP (L)**
⑪ Zone2 speaker R (optional)	**EXTRA SP (R)**

Caution

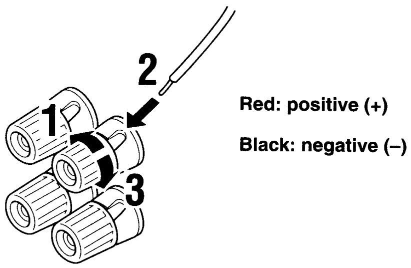
- A speaker cable is a pair of insulated cables running side by side in general. One of the cables is colored differently or striped to indicate a polarity. Connect one end of the colored/striped cable to the "+" (red) terminal of this unit and the other end to that of your speaker, and connect one end of the other cable to the "–" (black) terminal of this unit and the other end to that of your speaker.
- Before connecting the speakers, be sure to disconnect the power cable.
- Do not let the bare speaker wires touch each other or any metal part of this unit. This could damage this unit and/or speakers. If the circuit shorts out, "CHECK SP WIRES!" appears on the front panel display when this unit is turned on.
- If images on the monitor (CRT) are distorted, place the speakers away from the video monitor. If it does not work, use magnetically shielded speakers.
- Use speakers with an impedance of 6-ohm or larger. Set speaker impedance in the advanced setup menu before connecting the speakers (page 64). You can also use 4-ohm speakers as the front speakers when you set "SP IMP." to "6ΩMIN".

■ Connecting speaker cables

1 Remove approximately 10 mm (0.4 in) of insulation from the end of each speaker cable and then twist bare wires of the cable together so that they will not cause a short circuits.

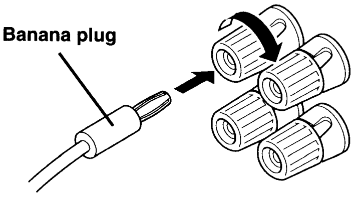


2 Loosen the knob, insert the twisted bare wires into the hole and then tighten the knob.



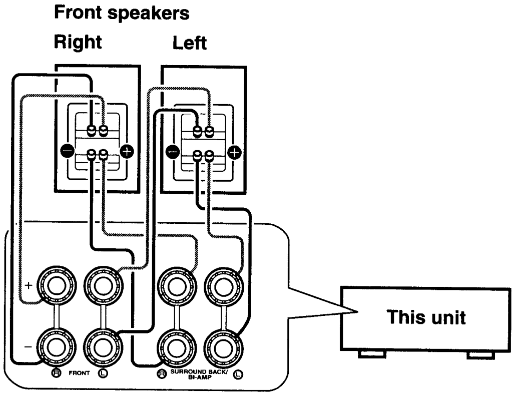
Connecting the banana plug (Except Korea, U.K., Europe, Russia and Asia models)

Tighten the knob and then insert the banana plug into the end of the terminal.



■ Using bi-amplification connections

You can make bi-amplification connections to one speaker system which supports bi-amplification connection as shown below. To activate the connections, set "BI-AMP" to "ON" in the advanced setup menu (page 64).



Caution

Before making bi-amplification connections, remove any brackets or cables that connect a woofer with a tweeter. Refer to the instruction manuals of speakers for details.

When not making bi-amplification connections, make sure that the brackets or cables are connected before connecting the speaker cables.

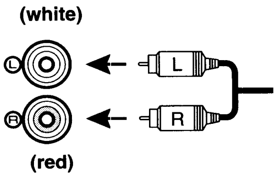
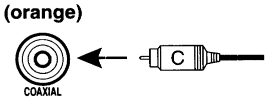
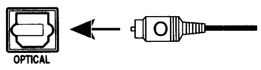
Note

- You cannot use surround back speakers or extra speakers (presence and Zone2 speakers) when bi-amplification connections are made.

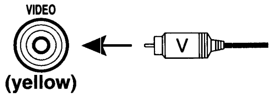
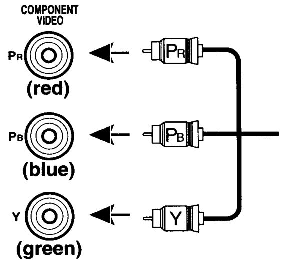
Information on jacks and cable plugs

This unit has the following input and output jacks. Use jacks and cables appropriate for components that you are connecting.

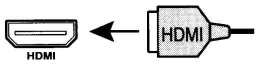
■ Audio jacks

Jack and cables	Description
Analog audio jacks  (white) L R (red)	To transmit conventional analog stereo audio signals. Use stereo pin cables. Connect red plugs to red jacks (R) and white plugs to white jacks (L).
COAXIAL jacks  (orange) C COAXIAL	To transmit coaxial digital audio signals. Use pin cables for digital audio signals.
OPTICAL jacks  	To transmit optical digital audio signals. Use optical fiber cables for optical digital audio signals.

■ Video jacks

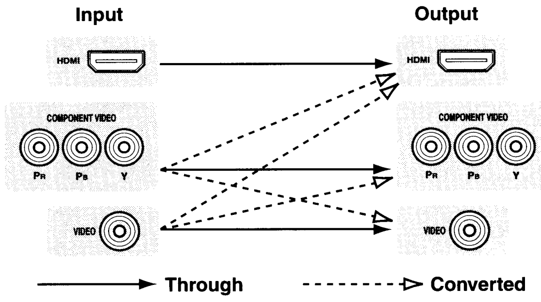
Jack and cables	Description
VIDEO jacks  VIDEO V (yellow)	To transmit conventional composite video signals. Use video pin cables.
COMPONENT VIDEO jacks  COMPONENT VIDEO PR (red) PB (blue) Y (green)	To transmit component video signals that include luminance (Y), chrominance blue (PB) and chrominance red (PR) components. Use component video cables.

■ Video/audio jacks

Jack and cables	Description
HDMI jacks  	To transmit digital video and digital audio signals. Use HDMI cables.

- We recommend that you use a commercially available 19-pin HDMI cable no longer than 5 meters (16 feet) with the HDMI logo printed on it.
- Use a conversion cable (HDMI jack ↔ DVI-D jack) to connect this unit to other DVI components.
- You can check the potential problem about the HDMI connection (page 48).

This unit automatically converts input video signals and outputs the signals to the HDMI OUT jack and MONITOR OUT (COMPONENT VIDEO and VIDEO) jacks (video conversion).

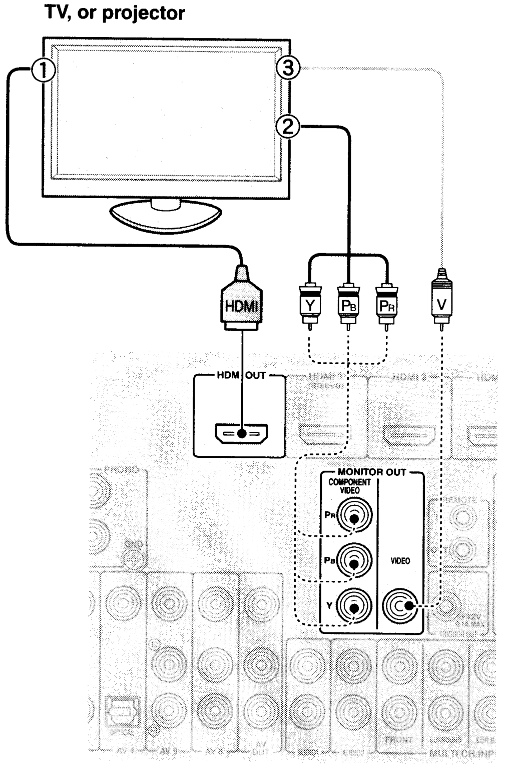

Input
Output
HDMI
COMPONENT VIDEO
PR
PB
Y
VIDEO
HDMI
COMPONENT VIDEO
PR
PB
Y
VIDEO
Through
Converted

Connecting a TV monitor or projector

According to the types of video input jacks available on your video monitor (such as a TV or projector), choose one of the connection methods as shown below. When you connect video players such as a DVD player to this unit with an HDMI connection, connect your video monitor to this unit with an HDMI connection.

Note

- Make sure that this unit and other components are unplugged from the AC wall outlets.



■ To connect an HDMI video monitor

Jacks on components	Jacks on this unit
① HDMI input	HDMI OUT

- This unit supports the HDMI control function (page 46). If your TV supports the HDMI control function, you can control this unit with the remote control of your TV.

■ To connect component video monitor

Jacks on components	Jacks on this unit
② Component video output	MONITOR OUT (COMPONENT VIDEO)

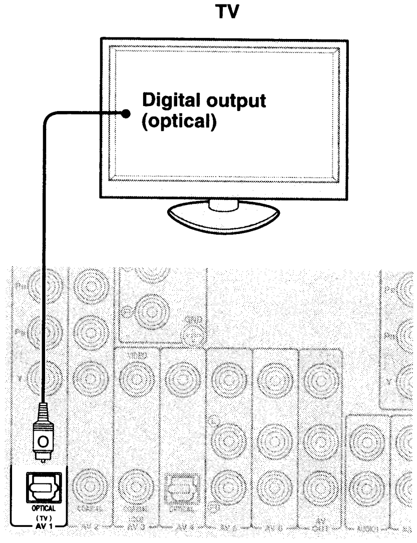
■ To connect composite video monitor

Jacks on components	Jacks on this unit
③ Video input (composite)	MONITOR OUT (VIDEO)

Outputting TV sounds from this unit

To output sound of a TV from this unit, make connection between one of the AV 1-6 jacks of this unit and an audio output jack of the TV.

If the TV supports an optical digital output, we recommend that you use the AV 1 jack. Connecting to the AV 1 jack allows you to switch an input source to the AV 1 jack with a just a single key operation using the SCENE function (page 22).

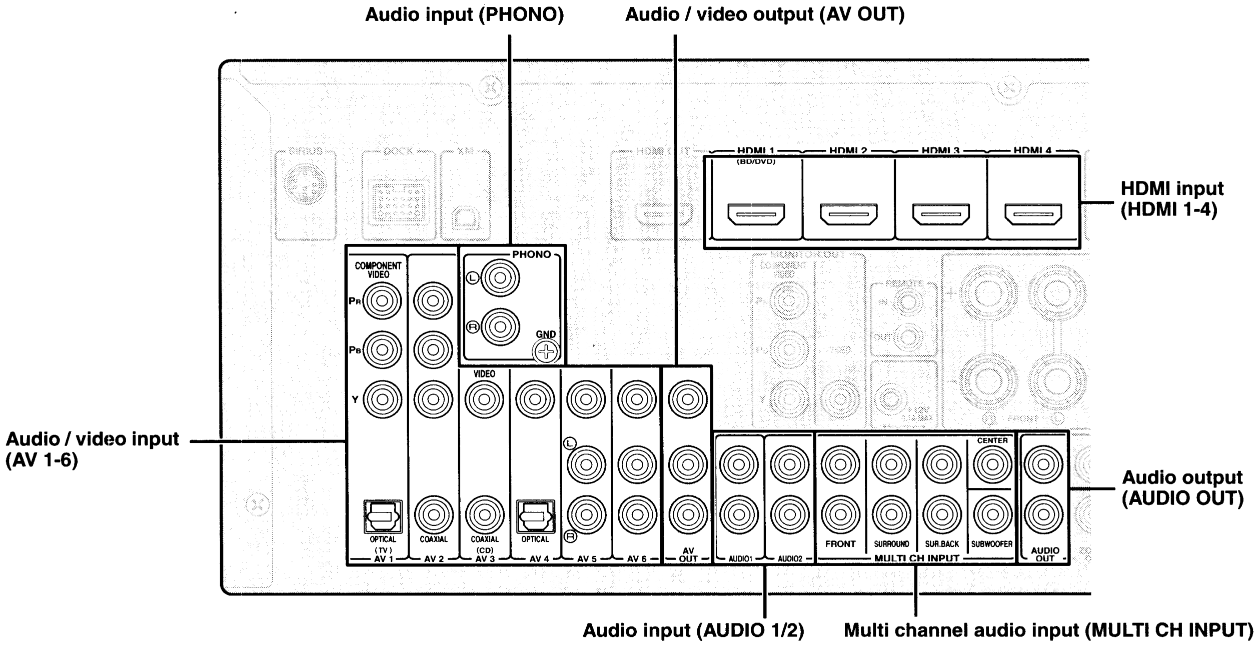


Connecting other components

This unit has input and output terminals for respective input and output sources. You can reproduce sound and movies from input sources selected with the front panel display or remote control.

Note

- Make sure that this unit and other components are unplugged from the AC wall outlets.


Audio input (PHONO)
Audio / video output (AV OUT)
HDMI 1 (BD/DVD)
HDMI 2
HDMI 3
HDMI 4
HDMI input (HDMI 1-4)
COMPONENT VIDEO
PHONO
GND
VIDEO
CENTER
Audio / video input (AV 1-6)
Audio output (AUDIO OUT)
OPTICAL (TV) AV 1
COAXIAL AV 2
COAXIAL (CD) AV 3
OPTICAL AV 4
AV 5
AV 6
AV OUT
AUDIO1
AUDIO2
FRONT
SURROUND
SUR.BACK
SUBWOOFER
MULTI CH INPUT
AUDIO OUT
Audio input (AUDIO 1/2)
Multi channel audio input (MULTI CH INPUT)

■ Audio and video player / Set-top box

Output jacks on the connected external component			Input sources/jacks of this unit	
External component	**Signal**	**Output jack**	**Input source**	**Input jack**
External component with HDMI output	Audio/Video	HDMI output	HDMI 1 (BD/DVD)	HDMI 1
			HDMI 2	HDMI 2
			HDMI 3	HDMI 3
			HDMI 4	HDMI 4
External component with component video output	Audio Video	Optical digital output Component video	AV 1 (TV)	OPTICAL COMPONENT VIDEO
	Audio Video	Coaxial digital output Component video output	AV 2	COAXIAL COMPONENT VIDEO
External component with composite video output	Audio Video	Coaxial digital output Composite output	AV 3 (CD)	COAXIAL VIDEO
	Audio Video	Optical digital output Composite output	AV 4	OPTICAL VIDEO
	Audio Video	Analog audio output Composite output	AV 5	Analog audio VIDEO
	Audio Video	Analog audio output Composite output	AV 6	Analog audio VIDEO

- Input sources in parentheses are recommended to connect to the respective jacks. If your Yamaha component has the remote in/out terminal, you can switch the input source to that component with a single key operation using the SCENE function (page 22).
- You can change the name of the input source displayed on the front panel display as necessary (page 60).
- See page 61 on how to use the ZONE2 OUT jacks.

■ Audio player

Output jacks on the connected external component		Input sources/jacks of this unit	
External component	**Output jack**	**Input source**	**Input jack**
External component with optical digital output	Optical digital output	AV 1 (TV)	OPTICAL
		AV 4	OPTICAL
External component with coaxial digital output	Coaxial digital output	AV 2	COAXIAL
		AV 3 (CD)	COAXIAL
External component with analog audio output	Analog audio output	AV 5	Analog audio
		AV 6	Analog audio
		AUDIO 1	Analog audio
		AUDIO 2	Analog audio
Turntable	Analog audio output	PHONO	Analog audio

- We recommend connecting the coaxial digital output terminal of a CD player to the AV3 jack.
- When connecting a turntable with a low-output MC cartridge to the PHONO jacks, use an in-line boosting transformer or MC-head amplifier.
- Connect your turntable to the GND terminal of this unit to reduce noise in the signal.

About audio/video output terminals

Among the analog audio and analog video signals input to this unit via input terminals, the audio/video signals of the selected input sources are output from the AV OUT jacks and AUDIO OUT jacks. An HDMI input signal, COMPONENT VIDEO input signal or digital audio input signal cannot be output.

When using the AV OUT jacks: connect an external component to the VIDEO or analog audio terminal.

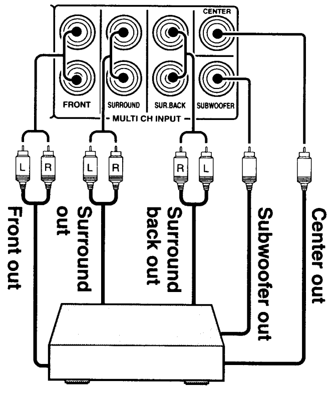
When using the AUDIO OUT jacks: connect an external component to the analog audio terminal.

■ Connecting a multi-format player or an external decoder

This unit is equipped with 8 additional input jacks (Front L/R, Center, Surround L/R, Surround Back L/R and Subwoofer) for analog multi-channel input from a multi-format player, external decoder, etc.

Notes

- When you select "MULTI CH" as the input source, the digital sound field processor is automatically disabled.
- Since this unit does not redirect signals input at the MULTI CH INPUT jacks to accommodate for missing speakers, connect at least a 5.1-channel speaker system when using this feature.
- You can specify a video signal to be output during a multi-channel audio reproduction (page 49). If your DVD player has analog multi-channel output jacks, connect them to the MULTI CH INPUT jacks while making a video connection (component video or composite).



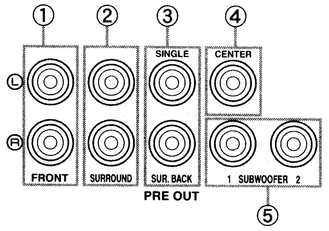
Multi-format player or external decoder (7.1-channel output)

■ Connecting an external amplifier

If you want to use another amplifier, connect an external amplifier to the PRE OUT jacks. Each PRE OUT jack outputs the same channel signals as the corresponding speaker terminals.

Note

- When you make connections to the PRE OUT jacks, do not make any connections to the speaker terminals.



① **FRONT PRE OUT jacks**
Front channel output jacks.

② **SURROUND PRE OUT jacks**
Surround channel output jacks.

③ **SUR.BACK PRE OUT jacks**
Surround back output jacks. When you only connect one external amplifier for the surround back channel, connect it to the left SUR.BACK (SINGLE) jack.

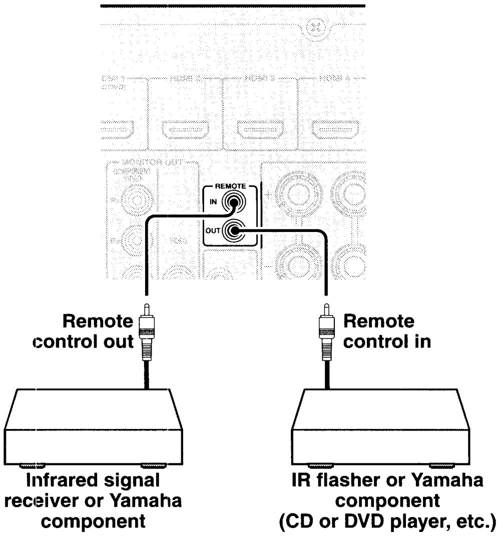
- To output surround back channel signals at these jacks, set "Surround Speaker" to any parameter except "None" (page 56).

④ **CENTER PRE OUT jack**
Center channel output jack.

⑤ **SUBWOOFER PRE OUT 1/2 jack**
Connect a subwoofer with a built-in amplifier.

■ Transmitting/receiving remote control signals

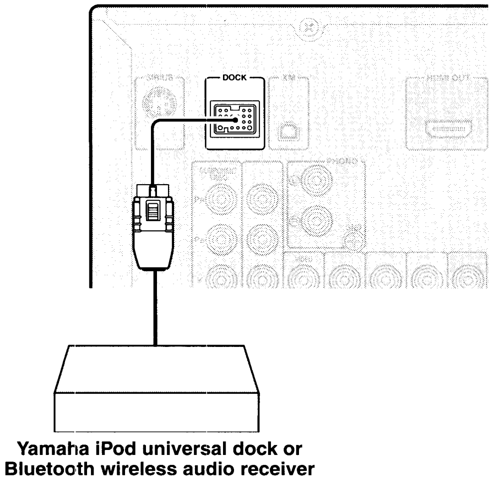
When the components have the capability of the transmission of the remote control signals, connect the REMOTE IN and REMOTE OUT jacks to the remote control input and output jack with the monaural analog mini cable as follows.


REMOTE
IN
OUT
Remote control out
Remote control in
Infrared signal receiver or Yamaha component
IR flasher or Yamaha component (CD or DVD player, etc.)

- If connecting a Yamaha component that supports the SCENE control signal reception to the REMOTE OUT jack of this unit, you can start playback on the Yamaha component by using the SCENE function (page 22).
- If connecting a component other than Yamaha products to the REMOTE OUT jack of this unit, set “SCENE IR” to “OFF” in the advanced setup menu (page 64).

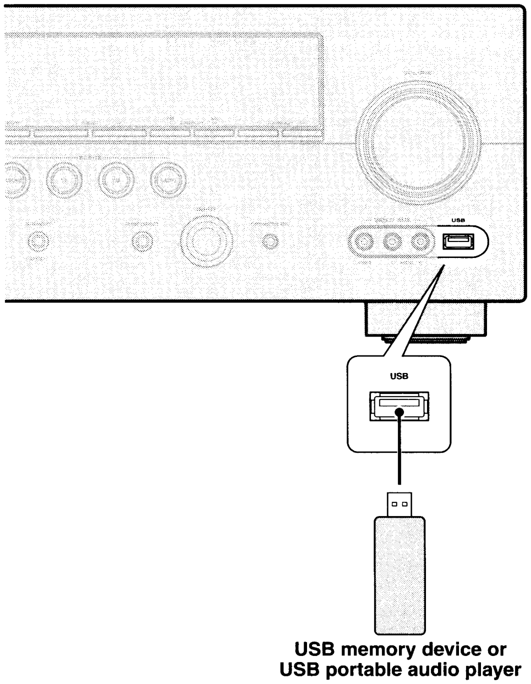
Connecting a Yamaha iPod universal dock or Bluetooth™ wireless audio receiver

This unit has the DOCK terminal, to which you can connect a Yamaha iPod universal dock (YDS-11, sold separately) or a Bluetooth wireless audio receiver (YBA-10, sold separately). You can play an iPod or a Bluetooth component with this unit by connecting it to the DOCK terminal.
Use a dedicated cable for connection between the dock/receiver and this unit.


DOCK
Yamaha iPod universal dock or Bluetooth wireless audio receiver

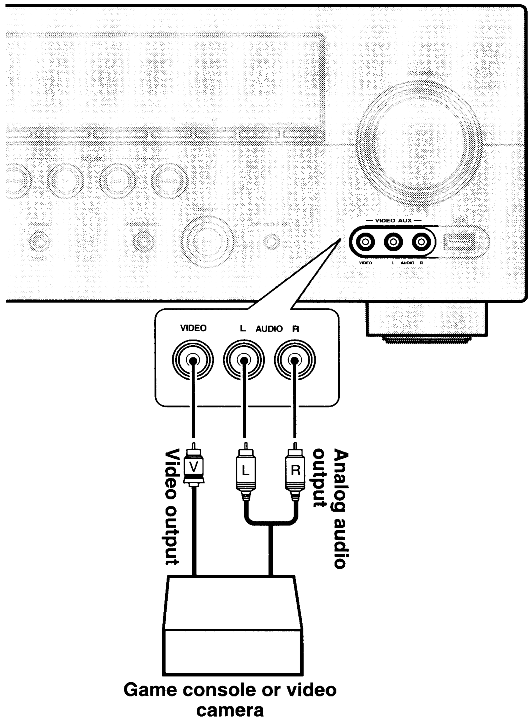
Connecting a USB storage device

Connect a USB memory device or USB portable audio player to the USB port on the front panel of this unit. For information about USB storage devices supported by this unit, see page 45.


USB
USB
USB memory device or USB portable audio player

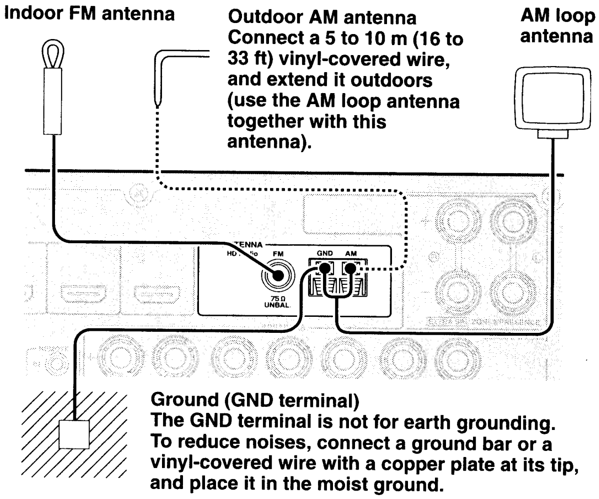
Using the VIDEO AUX jacks

Use the VIDEO AUX jacks on the front panel to connect a game console or a video camera to this unit. Be sure to turn down the volume of this unit and other components before making connections.


VIDEO AUX
VIDEO
L AUDIO R
V
L
R
Video output
Analog audio output
Game console or video camera

Connecting the FM and AM antennas

An indoor FM antenna and an AM loop antenna are supplied with this unit. Connect these antennas properly to the respective jacks.

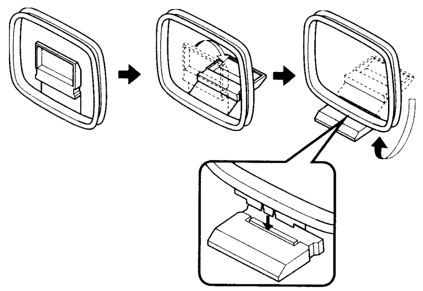


Outdoor AM antenna
Connect a 5 to 10 m (16 to 33 ft) vinyl-covered wire, and extend it outdoors (use the AM loop antenna together with this antenna).

Ground (GND terminal)
The GND terminal is not for earth grounding. To reduce noises, connect a ground bar or a vinyl-covered wire with a copper plate at its tip, and place it in the moist ground.

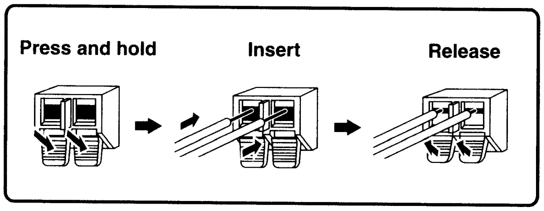
💡
- The supplied antennas are normally sensitive enough to obtain good reception.
- Position the AM loop antenna away from this unit.
- If you cannot get good reception, we recommend that you use an outdoor antenna. For details, consult the nearest authorized Yamaha dealer or service center.
- Always use the AM loop antenna even when the outdoor antenna is connected.

Assembling the AM loop antenna



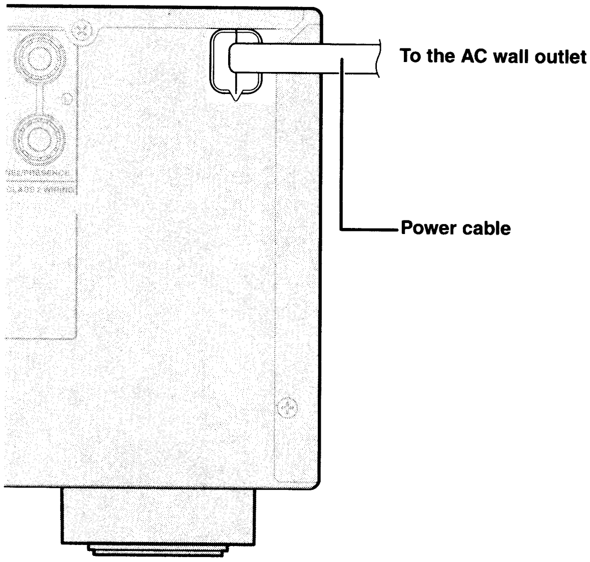
Connecting the AM loop antenna

The wires of the AM loop antenna have no polarity. You can connect either wire to the AM terminal and the other to the GND terminal.



Connecting the power cable

After all connections are complete, plug the power cable of this unit into an AC wall outlet.



Turning this unit on and off

1 **Press ⓀMAIN ZONE ON/OFF on the front panel (or [16]POWER on the remote control) to turn on this unit.**

2 **Press ⓀMAIN ZONE ON/OFF (or [16]POWER) again to turn off this unit (standby mode).**

💡
- The unit needs a few seconds until ready to play back.
- You can also turn on this unit by pressing Ⓟ**SCENE** (or [8]**SCENE**).
- This unit consumes a small amount of electricity even in the standby mode. We recommend disconnecting the power cable from the AC wall outlet.

Caution

Do not unplug this unit while it is turned on. Doing so may damage this unit or cause the settings of this unit to be saved incorrectly.

Optimizing the speaker setting for your listening room (YPAO)

This unit has a Yamaha Parametric Acoustic Optimizer (YPAO). With the YPAO, this unit automatically adjusts the output characteristics of your speakers based on speaker position, speaker performance, and the acoustic characteristics of the room. We recommend that you first adjust the output characteristics with the YPAO when you use this unit.

Caution

- Be advised that it is normal for loud test tones to be output during the "Auto Setup" procedure. Do not allow small children to enter the room during the procedure.
- To achieve the best results, make sure the room is as quiet as possible while the "Auto Setup" procedure is in progress. If there is too much ambient noise, the results may not be satisfactory.

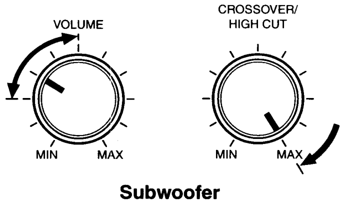
- You can manually adjust the output characteristics of your speakers with "Manual Setup" in the Setup menu (page 55).

Using Auto Setup

1 Check the following points.

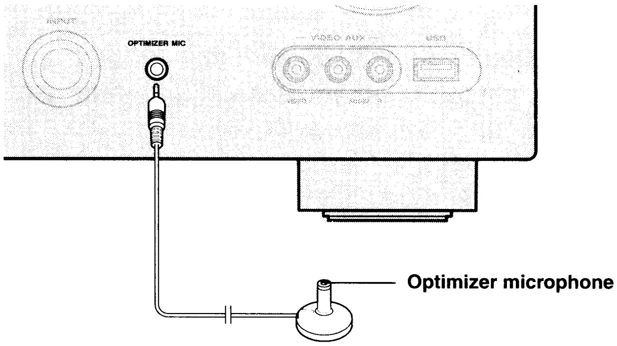
Before starting the automatic setup, check the following.

- All speakers and subwoofer are connected properly.
- Headphones are disconnected from this unit.
- The video monitor is connected properly.
- This unit and the video monitor are turned on.
- This unit is selected as the video input source of the video monitor.
- The connected subwoofer is turned on and the volume level is set to about half way (or slightly less).
- The crossover frequency controls of the connected subwoofer are set to the maximum.



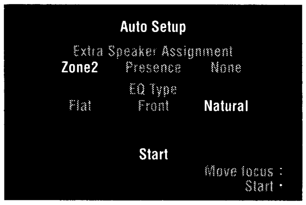
Subwoofer

2 Connect the supplied optimizer microphone to the ⓈOPTIMIZER MIC jack on the front panel.



"MIC ON. View GUI MENU" appears on the front panel display.

The GUI screen appears on the video monitor.


Auto Setup

Extra Speaker Assignment

Zone2 Presence None

EQ Type

Flat Front Natural

Start

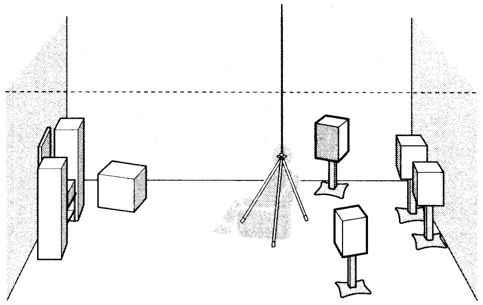
Move focus :

Start ·

- You can bring up the above menu screen from the Setup menu (page 55).

3 Place the optimizer microphone at your normal listening position on a flat level surface with the omni-directional microphone heading upward.

Optimizer microphone



- It is recommended that you use a tripod or something similar to fix the optimizer microphone at the same height as your ears would be when seated in your listening position. You can fix the optimizer microphone to the tripod with the attaching screw of the tripod.

4 When the speakers are connected to EXTRA SP terminals, press [10]Cursor △ repeatedly to select "Extra Speaker Assignment" and then press [10]Cursor ◁ / ▷ to select how to use EXTRA SP terminals from "Zone2", "Presence" or "None".

If this unit does not work when you press [10]**Cursor**, press [9]**ON SCREEN** once and then operate this unit.

5 To select sound characteristics for adjustment, press [10]Cursor ▽ to select "EQ Type" and then press [10]Cursor ◁ / ▷.

If this unit does not work when you press [10]**Cursor**, press [9]**ON SCREEN** once and then operate this unit.

This unit has a parametric equalizer that adjusts the output levels for each frequency range. The equalizer is adjusted to produce a cohesive sound field based on automatically measured speaker characteristics.

In "EQ Type", you can select the following parametric equalizer characteristics suitable for the desired sound characteristics.

Natural

This adjusts all speakers to achieve natural sound. Select this if sounds in the high frequency range seem too strong when "EQ Type" is set to "Flat".

Flat

This adjusts each speaker to obtain the same characteristics. Select this if your speakers have similar qualities.

Front

This adjusts each speaker to obtain the same characteristics as the front left and right speakers. Select this if your front left and right speakers have significantly better qualities than the other speakers.

6 Press [10]Cursor ▽ to select "Start" and then press [10]ENTER to start the setup procedure.

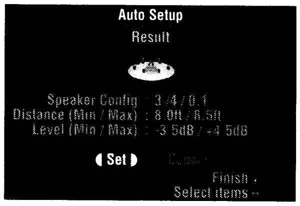
A countdown starts and a measurement starts in 10 seconds. A loud test tone is output during measurement.

Notes

- During the automatic setup procedure, do not perform any operation on this unit.
- Press [10]**Cursor** △ to cancel the automatic setup procedure.

Measurement takes about 3 minutes. To obtain precise results, stay where you will not disturb the measurement, such as to the side of or behind the speakers or outside the room.

When measurement is successfully completed, "YPAO Complete" appears on the front panel display and the measurement result appears on the GUI screen.


Auto Setup

Result

Speaker Config : 3 /4 / 0.1
Distance (Min / Max) : 8.0ft / 8.5ft
Level (Min / Max) : -3.5dB / +4.5dB

Speaker Config

Displays the number of speakers connected to this unit in the following order:

Total of Front and Center/Total of Surround and Surround Back/Subwoofer

Distance (Min / Max)

Displays the speaker distance from the listening position in the following order:

Closest speaker distance/Farthest speaker distance

Level (Min / Max)

Displays the speaker output levels in the following order:

Lowest speaker output level/Highest speaker output level

Notes

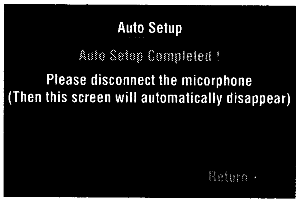
- If "Error" appears on the GUI screen during "Auto Setup", measurement is canceled and the type of error is displayed. For details, see "When an error message is displayed during measurement" (page 21).
- If problems occur during measurement, "Check xx warning(s)" (xx indicates the number of warnings) appears in red. For details, see "When a warning message is displayed after measurement" (page 21).

7 Press [10]ENTER to confirm the settings.

The speaker characteristics are adjusted according to measurement results.

To cancel the operation, press [10]**Cursor** ◁ / ▷ to select "Cancel" and press [10]**ENTER**.

When the following screen appears, remove the optimizer microphone. "Auto Setup" is now complete.


Auto Setup

Auto Setup Completed !

Please disconnect the micorphone
(Then this screen will automatically disappear)

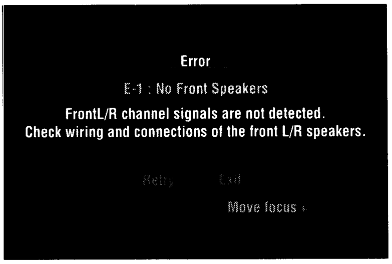
The optimizer microphone is sensitive to heat. Store it in a cool place and away from direct sunlight after measurement. Do not leave it in a place where it will be subjected to high temperatures such on an AV component.

- If you do not want to apply the measurement results, select "Cancel".
- Perform "Auto Setup" again if you change the number or positions of speakers.
- If you press [10]**ENTER** before removing the optimizer microphone, "Auto Setup" of "Speaker Setup" in the Setup menu (page 55) is displayed.

When an error message is displayed during measurement

If an error is detected during measurement, the measurement is canceled and “Error” appears on the GUI screen. Check the error and solve the problem. For details on each error message, see page 75.

Press [10]Cursor ▽ once, press [10]Cursor ◁ / ▷ to select “Retry” or “Exit” and then press [10]ENTER.



Error

E-1 : No Front Speakers

FrontL/R channel signals are not detected.
Check wiring and connections of the front L/R speakers.

Retry

Performs “Auto Setup” again.

Exit

Terminates the measurement and “Auto Setup”.

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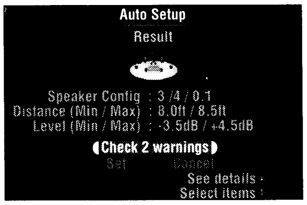
- When “E-5:NOISY” appears, you can continue measurement. To continue measurement, select “Proceed”. However, we recommend that you solve the problem first and then perform measurement again.

When a warning message is displayed after measurement

If a problem occurs during measurement, “Check xx warning(s)” appears on the GUI screen. Check the warning and solve the problem. For details on each warning message, see page 76.



Auto Setup

Result

Speaker Config : 3 /4 / 0.1
Distance (Min / Max) : 8.0ft / 8.5ft
Level (Min / Max) : -3.5dB / +4.5dB

💡

- Optimization will not be performed while a warning message is displayed. We recommend that you solve the problem and perform “Auto Setup” again.

1. **Press [10]Cursor ▽ / △ to select “Check xx warning(s)” and then press [10]ENTER.**

   Details of the warning message are displayed. If there are multiple warning messages, you can display the next message using [10]**Cursor** ▷.

2. **To return to the top result display, press [10]ENTER again.**

BASIC OPERATION

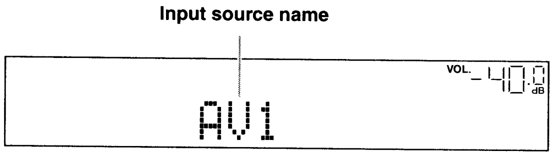
Playback

Basic procedure

1 Turn on external components (TV, DVD player, etc.) connected to this unit.

2 Rotate the ⓇINPUT selector (or press [4]Input selection key) to select an input source.

The name of the selected input source is displayed for a few seconds.



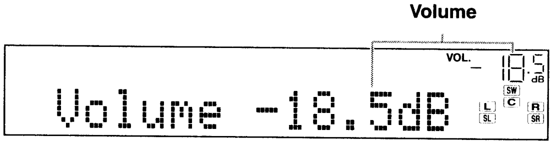
- You can also select an input source from the GUI screen (page 23).
- You can change the input source name displayed on the front panel display or GUI screen as necessary (page 60).

3 Play the external component that you have selected as the source input, or select a radio station on the tuner.

Refer to the operating instructions of the external component for details on playback. For selecting radio stations or playback of an iPod, Bluetooth component or USB storage device using this unit, see the following.

- FM/AM radio tuning (page 29)
- iPod playback (page 42)
- Bluetooth component playback (page 44)
- USB storage device playback (page 45)

4 Turn the ⒿVOLUME control (or press [19]VOLUME +/–) to adjust the volume.



Note

When you play back a DTS-CD, noise may be output in some conditions, which may cause a speaker malfunction. Make sure that the volume is set to low before starting playback. If noise is output, do the following.

1) When only noise is output
If a DTS bitstream signal is not properly input to this unit, only noise is output. Connect the playback component to this unit by digital connection and play back the DTS-CD. If the condition is not improved, the problem may results from the playback component. Consult the manufacturer of the playback component.

2) When noise is output during playback or skip operation
Before playing back the DTS-CD, display the Option menu after selecting the input source and set "Decoder Mode" to "DTS" (page 48).

Using the SCENE function

This unit has a SCENE function that allows you to change input sources and sound field programs with one key. Four scenes are available for different usages, such as playing movies or music. The following input sources and sound field programs are provided as the initial factory settings.

Keys	Input source	Sound field program
BD/DVD	HDMI 1	Straight
TV	AV 1	Straight
CD	AV 3	Straight
RADIO	TUNER	7ch Enhancer

- When this unit is on standby, you can turn on this unit by pressing ⓅSCENE (or [8]SCENE).
- If you connect a Yamaha DVD/CD player that has the capability of the SCENE control signals to the REMOTE OUT jack of this unit, you can start playback on the player by using the SCENE function.

Selecting a SCENE

Press ⓅSCENE (or [8]SCENE).

- You can also select a SCENE from the GUI screen (page 23).

Registering input source/sound field program

Select the desired input source/sound field program and then press and hold ⓅSCENE (or ⑧SCENE) key to edit until "SET Complete" appears on the front panel display.

- If you change the input source setting, register the remote control code of an external component to the input source (page 63).

Switching remotely controlled external components linked to scene selections

You can operate an external component with the remote control of this unit by setting a remote control code for the external component for each input source. Setting remote control codes for desired input sources allows you to switch between external components linked to scene selections.

1 Register the remote control code of an external component to the desired input source (page 63).

Note

- This feature is not available for TUNER, SIRIUS and XM input sources.

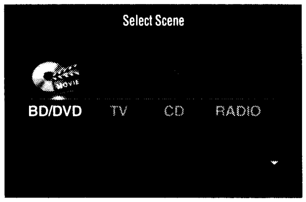
2 While holding down the desired 8 SCENE key, press and hold the 4 Input selection key to which you registered a remote control code in step 1.

From now on the external component can be remotely controllable just by selecting a scene.

Selecting an input source on the GUI screen

1 Press 9 ON SCREEN on the remote control.

The GUI screen appears on the video monitor.



2 Use 10 Cursor △ / ▽ repeatedly to switch the page and 10 Cursor ◁ / ▷ repeatedly to select the desired input source.

Category	Input source
Select Scene	BD/DVD, TV, CD, RADIO
Select Media	USB, DOCK, SIRIUS, XM, TUNER, PHONO, V-AUX, MULTI CH
Select Input	HDMI1-4, AV1-6, AUDIO1/2

- If an input source you want to select is available in "Select Scene", you can select the desired input source and sound field program at once.

3 Press 10 ENTER.

Muting audio output

1 Press 21 MUTE on the remote control to mute the audio output.

The MUTE indicator on the front panel display flashes while audio output is muted.

2 Press 21 MUTE again to resume audio output.

Adjusting high/low frequency sounds (tone control)

You can adjust the balance of the high frequency range (Treble) and low frequency range (Bass) of sounds output from the front left and right speakers to obtain desired tone.

1 Press ⓂTONE CONTROL on the front panel repeatedly to select "Treble" or "Bass".

The current setting is displayed on the front panel display.

```
Treble     0.0dB
```

2 Rotate the ⓃPROGRAM selector to adjust the frequency range.

Control range: –10.0 dB to +10.0 dB

The display returns to the previous screen automatically in few seconds.

Notes

- The tone control settings are not effective when this unit is in the Pure Direct mode or "MULTI CH" is selected as an input source.
- If you set the balance extremely off, sounds may not match those from other channels well.

Enjoying pure hi-fi sound

Use Pure Direct mode to enjoy the pure high fidelity sound of the selected source. When Pure Direct mode is activated, this unit plays back the selected source with the least circuitry.

Press ⓆPURE DIRECT (or [7]PURE DIRECT) to turn the Pure Direct mode on or off.

ⓆPURE DIRECT lights up when you set Pure Direct mode on.

The following features are disabled in the Pure Direct mode.

- sound field program, tone control
- display and operation of the Option menu and Setup menu
- multi-zone function

- The font panel display automatically turns off while this unit in the Pure Direct mode.

Using your headphones

Plug your headphones in the ⓁPHONES jack on the front panel.

When you select a sound field program while using the headphones, the mode is automatically set to SILENT CINEMA mode.

Notes

- When you connect headphones, no signals are output at the speaker terminals.
- When multi-channel signals are processed, sounds in all channels are divided to left and right channels. When "MULTI CH" is selected as the input source, only front L/R sounds are output from the headphones.

Displaying input signal information

When HDMI 1-4 or AV1-4 is selected as the input source, you can display audio/video signal information.

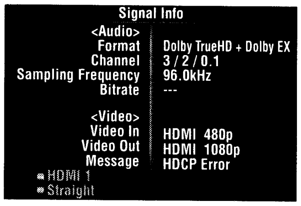
- Input signal information is displayed on both the GUI screen and front panel display.

1 Select the desired input source and then press [18]OPTION on the remote control.

The Option menu for the selected input source is displayed (page 47).

2 Press [10]Cursor △ / ▽ to select "Signal Info" and then press [10]ENTER.

Information on the input signal is displayed. See page 48 for details about each information.



Signal Info
<Audio>
Format Dolby TrueHD + Dolby EX
Channel 3 / 2 / 0.1
Sampling Frequency 96.0kHz
Bitrate ---
<Video>
Video In HDMI 480p
Video Out HDMI 1080p
Message HDCP Error
■ HDMI 1
■ Straight

Note

- If an HDMI related error occurs, error information is displayed at the bottom of the screen.

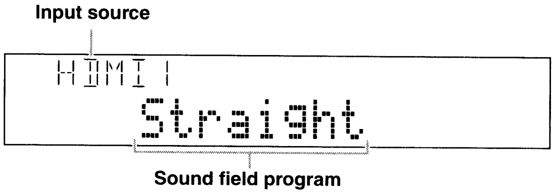
3 To exit the Option menu, press [18]OPTION.

Changing information on the front panel display

Press ⒹINFO (or [6]INFO) repeatedly.

Available information differs depending on the selected input source.

For example, if you select HDMI1 input and display "DSP Program", the following screen appears on the front panel display.



Input source	Information
HDMI1-4 **AV1-6** **AUDIO1/2** **V-AUX** **PHONO** **iPod (DOCK) (simple remote mode)** **BLUETOOTH (DOCK)**	Input DSP Program Audio Decoder
USB **iPod (DOCK) (menu browse mode)**	(on play information display) DSP Program, Audio Decoder, Song, Artist, Album (on GUI screen) List
TUNER	Frequency, DSP Program, Audio Decoder (for HD Radio information) Call Sign*, Category*, Artist / Song*, Album*, Tag Info, DSP Program, Audio Decoder, Frequency
SIRIUS	Channel, Category, Artist / Song, Composer, Antenna, DSP Program, Audio Decoder
XM	Channel, Category, Artist / Song, Antenna, DSP Program, Audio Decoder
MULTI CH	Input

Note

- Information marked with "*" is not available when analog HD Radio station is selected.

Enjoying the sound field programs

This unit is also equipped with a Yamaha digital sound field processing (DSP) chip. You can enjoy multi-channel sounds for almost all input sources using various sound field programs stored on the chip and a variety of surround decoders.

Selecting sound field programs

■ Selecting a sound field program on the front panel

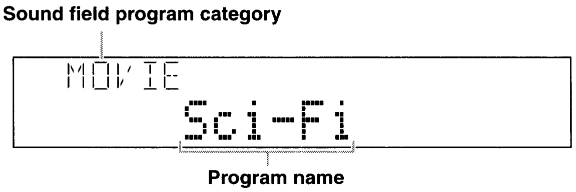
Rotate the Ⓝ**PROGRAM** selector to select a desired sound field program.

■ Selecting a sound field program with the remote control

Perform the following operations depending on the category of the sound field programs.

Sound field programs for movies/TV programs	Press 7**MOVIE** repeatedly.
Sound field programs for music	Press 7**MUSIC** repeatedly.
Stereo reproduction	Press 7**STEREO** repeatedly.
Multi-channel stereo reproduction	Press 7**STEREO** repeatedly.
Compressed music enhancer	Press 7**STEREO** repeatedly.
Surround decoder	Press 7**SUR.DECODE** repeatedly.

For example, if you select "Sci-Fi", the following screen appears on the front panel display.



Notes

- Sound field programs are stored for each input source. When you change the input source, the sound field program previously selected for that input source is applied again.
- When you play back the Dolby Digital Plus, Dolby TrueHD, DTS Express, DTS-HD Master Audio, DTS-HD High Resolution Audio sources or audio signals with sampling frequency of higher than 96 kHz, the straight decode mode (page 28) is automatically selected.

Sound field program descriptions

This unit provides sound field programs for multiple categories including music, movies and stereo reproduction. Select a sound field program based on your listening preference, not merely on the name of the program, etc.

- You can check what speakers are currently outputting signals with the speaker indicators on the front panel display (page 6).
- Each program can adjust sound field elements (sound field parameters). For details, see page 50.
- CINEMA DSP in the table indicates the sound field program with CINEMA DSP.

For movie/TV program sources (MOVIE) CINEMA DSP

Program	Descriptions
Standard	This program creates a sound field emphasizing the surrounding feeling without disturbing the original acoustic positioning of multi-channel audio such as Dolby Digital and DTS. It has been designed with the concept of "an ideal movie theater", in which the audience is surrounded by beautiful reverberations from the left, right and rear.
Spectacle	This program represents the spectacular feeling of large-scale movie productions. It reproduces a broad theater sound field matching the cinemascope and wider-screen movies with an excellent dynamic range from very small to extremely large sound.
Sci-Fi	This program clearly reproduces the finely elaborated sound design of the latest science fiction and special effects-featuring movies. You can enjoy a variety of cinematographically created virtual spaces reproduced with clear separation between dialog, sound effects and background music.
Adventure	This program is ideal for precisely reproducing the sound design of action and adventure movies. The sound field restrains reverberations but puts emphasis on reproducing a powerful space expanded widely to the left and right. The reproduced depth is also restrained relatively to ensure the separation between audio channels and the clarity of the sound.

Program	Descriptions
Drama	This sound field features stable reverberations that match a wide range of movie genres from serious dramas to musicals and comedies. The reverberations are modest but offer an optimum 3D feeling, reproducing effects tones and background music softly but cubically around clear words and center positioning in a way that does not fatigue the listener even after long hours of viewing.
Mono Movie	This program is provided for reproducing monaural video sources such as a classic movie in an atmosphere of a good old movie theater. The program produces the optimum expansion and reverberation to the original audio to create a comfortable space with a certain sound depth.
Sports	This program allows the listeners to enjoy stereo sport broadcasts and studio variety programs with enriched live feeling. In sports broadcasts, the voices of the commentator and sportscaster are positioned clearly at the center while the atmosphere of the stadium expands in an optimum space to offer the listeners with a feeling of presence in the stadium.
Action Game	This sound field has been suitable for action games such as car racing and FPS games. It uses the reflection data that limits the effects range per channel in order to offer a powerful playing environment with a being-there feeling by enhancing various effects tones while maintaining a clear sense of directions.
Roleplaying Game	This sound field has been suitable for role-playing and adventure games. It combines the sound field effects for movies and the sound field designs for "Action Game" to represent the depth and 3D feeling of the field during play, while offering movie-like surround effects in the movie scenes in the game.

For audio music sources (MUSIC) CINEMA DSP

Program	Descriptions
Hall in Munich	This sound field simulates a concert hall with approximately 2500 seats in Munich, using stylish wood for the interior finishing as normal standards for European concert halls. Fine, beautiful reverberations spread richly, creating a calming atmosphere. The listener's virtual seat is at the center left of the arena.
Hall in Vienna	This is an approximately 1700-seated, middle-sized concert hall with a shoebox shape that is traditional in Vienna. Pillars and ornate carvings create extremely complex reflections from all around the audience, producing a very full, rich sound.
Chamber	This program creates a relatively wide space with a high ceiling like an audience hall in a palace. It offers pleasant reverberations that are suitable for courtly music and chamber music.
Cellar Club	This program simulates a live house with a low ceiling and homey atmosphere. A realistic, live sound field features powerful sound as if the listener is in a row in front of a small stage.
The Roxy Theatre	This is the sound field of a rock music live house in Los Angeles, with approximately 460 seats. The listener's virtual seat is at the center left of the hall.
The Bottom Line	This is the sound field at stage front in The Bottom Line, that was a famous New York jazz club once. The floor can seat 300 people to the left and right in a sound field offering real and vibrant sound.
Music Video	This sound field offers an image of a concert hall for live performance of pop, rock and jazz music. The listener can indulge oneself in a hot live space thanks to the presence sound field that emphasizes the vividness of vocals and solo play and the beat of rhythm instruments, and to the surround sound field that reproduces the space of a big live hall.

For stereo reproduction (STEREO)

Program	Descriptions
2ch Stereo	Use this program to mix down multi-channel sources to 2 channels.

- When multi-channel signals are input, they are downmixed to 2 channels and output from the front left and right speakers.

For multi-channel stereo reproduction (STEREO)

Program	Descriptions
7ch Stereo	Use this program to output sound from all speakers. When you play back multi-channel sources, this unit downmixes the source to 2 channels and then outputs the sound from all speakers. This program creates a larger sound field and is ideal for background music at parties, etc.

Compressed Music Enhancer (ENHANCER)

Program	Descriptions
Straight Enhancer	Use this program to enhance the sound nearest to the original depth and width of the 2-channel or multi-channel compression artifacts.
7ch Enhancer	Use this program to play back compression artifacts in 7-channel stereo.

Surround decode mode (SUR. DECODE)

Select this program to playback sources with selected decoders. You can playback 2-channel sources on multi-channels.

Decoder	Descriptions
Pro Logic	Dolby Pro Logic decoder suitable for all kinds of sources.
PLIIx Movie / PLII Movie	Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder suitable for movies. If your listening environment is as follows, you cannot select the Dolby Pro Logic IIx decoder. • When the surround back speakers are not connected • When headphones are connected
PLIIx Music / PLII Music	Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder suitable for music. If your listening environment is as follows, you cannot select the Dolby Pro Logic IIx decoder. • When the surround back speakers are not connected • When headphones are connected
PLIIx Game / PLII Game	Dolby Pro Logic IIx (or Dolby Pro Logic II) decoder suitable for games. If your listening environment is as follows, you cannot select the Dolby Pro Logic IIx decoder. • When the surround back speakers are not connected • When headphones are connected
Neo:6 Cinema	DTS decoder suitable for movies.
Neo:6 Music	DTS decoder suitable for music.
Neural Sur. (U.S.A. model only)	Neural Surround processing for any sources. The Neural Surround decoder supports PCM (sampling rate of 96 kHz or lower), Dolby Digital, DTS Digital Surround (except for DTS 96/24), DSD and analog 2-channel input sources. When Neural Surround-incompatible signals are being input while the Neural Surround decoder is selected, multi-channel sources are decoded straight into the appropriate channels without any additional effect processing and the Neural Surround-incompatible PCM signals are reproduced in stereo. The Neural Surround decoder is especially suitable for the XM HD Surround program of XM Satellite Radio.

- An input source is played back in straight decode mode (page 28) when "MULTI CH" is selected as the input source.

Enjoying unprocessed input sources (Straight decode mode)

In straight decode mode, sounds are reproduced without sound field effect. 2-channel stereo sources are output from only the front left and right speakers. Multi-channel input sources are decoded straight into the appropriate channels and multi-channel sounds are reproduced without a sound field effect.

1 To enable straight decode mode, press ◎STRAIGHT (or [7]STRAIGHT).

"Straight" appears on the front panel display.

2 To cancel straight decode mode, press ◎STRAIGHT (or [7]STRAIGHT) again.

A sound field program name appears on the front panel display, and sound is reproduced with that sound field effect.

Enjoying sound field programs without surround speakers (Virtual CINEMA DSP)

Virtual CINEMA DSP allows you to enjoy DSP sound field surround effects even without any surround speakers by using virtual surround speakers. You can even enjoy Virtual CINEMA DSP using a minimal two-speaker system that does not include a center speaker.
When "Surround Speaker" in the Setup menu is set to "None" (page 56), this unit operates in Virtual CINEMA DSP mode.

Note

- Virtual CINEMA DSP is not available in the following conditions even if you set "Surround Speaker" to "None" (page 56).
  - headphone plug is connected to the PHONES jack.
  - 7ch Stereo of the field sound program is selected.
  - Pure Direct mode or straight decode mode is used.

Enjoy sound field programs with headphones (SILENT CINEMA™)

SILENT CINEMA allows you to enjoy multi-channel sources with your headphones. SILENT CINEMA mode is automatically selected when you connect the headphone plug to the PHONES jack.

Note

- SILENT CINEMA mode is not available in the following conditions.
  - 2ch Stereo of the sound field program is selected.
  - Pure Direct mode or straight decode mode is selected.

Using CINEMA DSP 3D mode

CINEMA DSP 3D mode creates the intensive and accurate stereoscopic sound field in the listening room. To use this unit in CINEMA DSP 3D mode, presence speakers are required. Connect the presence speakers to the EXTRA SP terminals, perform the following settings and then select a CINEMA DSP related sound field program.

- Disconnect the headphones from the PHONES jack.
- Set "Extra Speaker Assignment" to "Presence" (page 56).
- Set "3D DSP" to "On" (page 50).

When the sound field program runs in CINEMA DSP 3D mode, the 3D indicator on the front panel display lights up.

FM/AM tuning

The FM/AM tuner of this unit provides the following two modes for tuning.

■ Frequency tuning mode

You can tune in to a desired FM/AM station by searching or specifying its frequency.

■ Preset tuning mode

You can preset the frequencies of FM/AM stations by registering them to specific numbers, and later just select those numbers to tune in.

Note

- Adjust the FM/AM antennas connected to this unit for the best reception.

Tuning in to the desired FM/AM station (Frequency tuning)

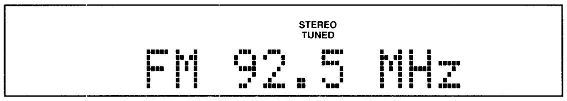
1 Rotate the ⓇINPUT selector (or press [4]TUNER) to select "TUNER" as the input source.

2 Press ⒼFM ([5]FM) or ⒼAM ([5]AM) to select a band.

"FM" or "AM" appears on the front panel display according to the band that you have selected.

3 Press ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽) to specify the frequency.

To adjust the frequency to a higher range, press ▷ (or △). To adjust it to the lower range, press ◁ (or ▽). The TUNED indicator on the front panel display lights up when the tuner is tuned in to a station. The STEREO indicator also lights up if the program being broadcasted is in stereo.



STEREO
TUNED
FM 92.5 MHz

The frequency changes in the following manner according to how you press **ⒽTUNING/CH** ◁ / ▷ (or **[5]TUN./CH** △ / ▽).

When you press the key more than 1 second

The tuner searches the frequency of a station that is detectable around the current frequency. This is effective when the tuner can receive strong signals without any interference. Once the search starts, release the key. When you keep holding the key, the search continues even when a station is detected. This is useful when you want to tune in to a specific station.

When you press and release the key

The tuner increases or decreases the frequency in steps. Use this method when the tuner cannot receive strong signals and stations are skipped during the search.

- You can switch between stereo and monaural for FM broadcast in the Option menu (page 48).
- (U.S.A. model only)
  When tuning in to an HD Radio station, the HD indicator lights up. See page 31 for details about the HD Radio features.

4 To tune in by direct frequency tuning, press [12]Numeric keys to enter the frequency of the station.

Enter only integers. For example, if you want to set the frequency to 88.9 MHz, enter "889".

Notes

- When you press **[12]Numeric keys** during preset tuning, a preset number is selected. Set tuning mode to frequency tuning mode using **ⒽTUNING/CH** ◁ / ▷ (or **[5]TUN./CH** △ / ▽) prior to the operation.
- "Wrong Station!" appears on the front panel display when you enter a frequency that is out of receivable range. Make sure that the entered frequency is correct.

Registering FM/AM stations and tuning in (Preset tuning)

You can register up to 40 FM/AM stations (Preset).

Registering stations by automatic station preset

The tuner automatically detects FM stations with strong signals and registers up to 40 stations. To register AM stations, use manual station preset.

(U.S.A. model only)
You can register up to 40 FM HD Radio, AM HD Radio and analog FM radio stations with strong signals.

Note

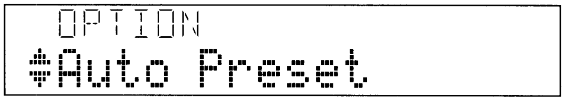
- (U.S.A. model only)
  If you register an FM HD Radio station with this feature, only the main audio program of the station (HD1) will be stored. To store other audio program, preset the station manually.

1 Rotate the ⓇINPUT selector (or press [4]TUNER) to select "TUNER" as the input source.

2 Press [18]OPTION on the remote control.

The Option menu for "TUNER" is displayed (page 47).

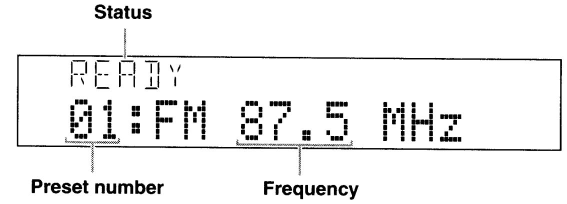
3 Select "Auto Preset" and then press [10]ENTER.



OPTION
◆Auto Preset

Automatic station preset starts about 5 seconds later from the lowest frequency upwards.

- You can select the preset number at which the preset starts by pressing [5]**PRESET** △ / ▽ or [10]**Cursor** △ / ▽ while "READY" is displayed on the front panel display.
- To cancel registration, press [10]**RETURN**.



During the automatic station preset, "MEMORY" appears in the front panel display each time a station is registered.
When registration is complete, "FINISH" appears and then the display returns to the Option menu.
To return the display to the original state, press [18]**OPTION**.

Registering stations by manual station preset

You can manually register FM stations with weak signals or AM stations.

1 Tune in to the desired station (page 29).

- (U.S.A. model only)
  To register a sub-audio program of the HD Radio station (HD2 to HD8), press [22]**PRG SELECT** to select the desired audio program.

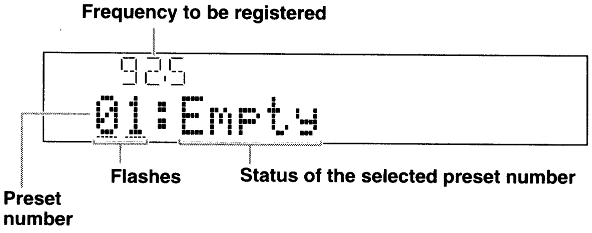
2 Press Ⓔ**MEMORY** (or [5]**MEMORY**).

"Manual Preset" appears on the front panel display, followed soon by the preset number to which the station will be registered.

- By holding down Ⓔ**MEMORY** (or [5]**MEMORY**) for more than 2 seconds, you can skip the following steps and automatically register the selected station to an empty preset number (next to the lastly-registered preset number).

3 Press Ⓕ**PRESET** ◁ / ▷ (or [5]**PRESET** △ / ▽) to select the preset number to which the station will be registered.

When you select a preset number to which no station is registered, "Empty" appears. When you select a preset number to which any station has been already registered, the frequency of the station is displayed.


Frequency to be registered
92.5
01:Empty
Flashes
Status of the selected preset number
Preset number

- You can also select a preset number using the [12]**Numeric keys**.

4 Press Ⓔ**MEMORY** (or [5]**MEMORY**).

When registration is complete, the display returns to the original state.

- To cancel registration, press [10]**RETURN** or leave this unit without any operations for about 30 seconds.

Calling a preset station (Preset tuning)

You can call preset stations registered by automatic station preset or manual station preset.

Press Ⓕ**PRESET** ◁ / ▷ (or [5]**PRESET** △ / ▽) to select a preset number.

- Preset numbers to which no stations are registered are skipped.
- "No Presets" or "No Presets in Memory" is displayed if no stations are registered.
- You can directly select a preset number by pressing [12]**Numeric keys** while calling a preset station. "Empty" appears on the display if you enter a preset number to which no station is registered. "Wrong Num." appears if you enter an invalid number.
- When you press [12]**Numeric keys** during normal tuning, a frequency is entered. Set tuning mode to preset tuning mode using Ⓕ**PRESET** ◁ / ▷ (or [5]**PRESET** △ / ▽) prior to the operation.
- (U.S.A. model only)
  This unit may take a little time to call a sub-audio program of an HD Radio station.

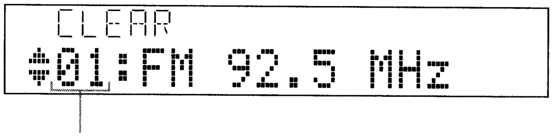
Clearing preset stations

1 Rotate the Ⓡ**INPUT** selector (or press [4]**TUNER**) to select "TUNER" as the input source.

2 Press [18]**OPTION** on the remote control.

The Option menu for "TUNER" is displayed (page 47).

3 Press [10]**Cursor** △ / ▽ to select "Clear Preset" and then press [10]**ENTER**.



Preset number

- To cancel the operation and return to the Option menu, press [10]**RETURN**.

4 Press [10]**Cursor** △ / ▽ to select a preset number to reset and then press [10]**ENTER**.

The preset station registered to the selected preset number is cleared. To clear the registration of multiple preset numbers, repeat step 4.
To exit the Option menu, press [18]**OPTION**.

Using HD Radio™ features (U.S.A. model only)

HD Radio technology is a new technology that enables FM and AM radio stations to broadcast programs digitally. Digital broadcasting provides listeners with radically improved audio quality and reception as well as new data services. Furthermore, supplemental program services allow listeners to select from up to 8 HD Radio programs multicast on a single FM HD Radio channel. For further information on HD Radio technology, visit "http://www.hdradio.com/".
This unit is equipped with an HD Radio reception feature, facilitating CD quality FM broadcasts as well as analog FM stereo quality AM broadcasts. In addition, this unit can receive both audio and data (such as song titles, artist names, program types, and comments) from all HD Radio programs (HD1 to HD8).

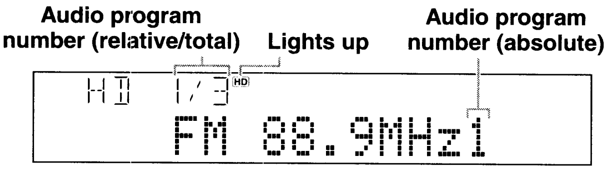
Notes

- The tuning method for HD Radio stations are same as analog FM/AM radio stations; however, you only tune into the analog part of a hybrid HD Radio station while this unit is in the monaural tuning mode (page 48).
- This unit is capable of receiving both hybrid and all-digital HD Radio station signals. However, this unit may not automatically receive all-digital FM station signals and the automatic tuning operation may stop. In this case, enter the frequency of the desired all-digital FM HD Radio station directly by using the ⑫**Numeric keys** (page 29).

Selecting HD Radio™ audio programs

The HD indicator lights up in the front panel display when this unit is tuned into an HD Radio reception band. In this state, you can select the desired audio program if the selected FM HD Radio station provides multiple audio programs (up to 8).

■ When multiple audio programs are provided


Audio program number (relative/total)
Lights up
Audio program number (absolute)
HD
1/3
HD
FM 88.9MHz 1

Press ㉒PRG SELECT ⏮ / ⏭ on the remote control repeatedly to select the desired audio program.

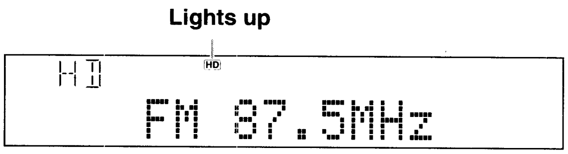
- You can also select audio program using ⑫**Numeric keys**(1-8) and ⑫**ENT** when this unit is in the automatic or manual tuning mode. In case you select an audio program currently not available, "HDx Off" ("x" indicates the program number) appears.

Notes

- When reception for an audio program ceases, the HD indicator disappears from the front panel display and HD1 is automatically selected after approximately 20 seconds.
- Some audio programs may not contain data programs depending on the broadcasting station and the time period.

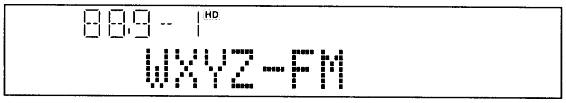
■ When only one audio program is provided

If this unit is tuned into an FM HD Radio station including only one audio program or an AM HD Radio station, you cannot select audio programs.



■ Behavior of the display

This unit automatically shows the HD Radio information (call sign, etc) on the front panel display after 3 seconds. You can switch HD Radio information to be displayed (page 32).

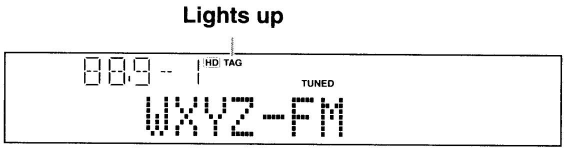


Using the iTunes Tagging feature

This unit is equipped with the iTunes Tagging feature that enables HD Radio listeners to "tag" songs for subsequent preview and purchase on iTunes. For details on the iTunes Tagging feature, visit "http://www.hdradio.com/".

1 Tune into an HD Radio station and select HD Radio audio program (if available).

If the selected HD Radio program (or song being played) supports the iTunes Tagging feature, the TAG indicator lights up in the front panel display and "TAG" appears on the GUI screen.



2 While a song you want to tag is being played back, press ㉒TAG on the remote control.

If a song is tagged, "StorageSuccess" and the number of stored iTunes Tagging information files (up to 50) appear in the front panel display.

Notes

- "Insufficient Data' appears in the front panel display and GUI screen if tagging is not available.
- If a status message or an error message appears on the front panel display or the GUI screen, see "iTunes Tagging" (page 70)

- This unit transmits the "tag" data to the iPod if an iPod that supports iTunes Tagging feature is stationed in the Yamaha iPod universal dock (YDS-11, sold separately) connected to the DOCK terminal of this unit. Otherwise, this unit stores the "tag" data (up to 50) in the internal memory and will transmit it next time your iPod is stationed.

Displaying HD Radio™ information

Use this feature to display the HD Radio information in the front panel display or on the GUI screen.

Note

- If a status message or an error message appears on the front panel display or GUI screen, see "HD Radio Reception" (page 69).

■ Front panel display

Press ⒹINFO (or ⑥INFO) repeatedly to toggle the following HD Radio information display modes.

Call Sign
Call sign, frequency, audio program number (absolute)

↓

Category
Program category, frequency, audio program number (absolute)

↓

Artist / Song
Artist name, song title, frequency, audio program number (absolute)

↓

Album
Album title, frequency, audio program number (absolute)

↓

Tag Info
The number of iTunes Tagging information files stored in the internal memory, frequency, audio program number (absolute)

↓

DSP Program
Current sound field program (page 25), frequency, audio program number (absolute)

↓

Audio Decoder
Current audio decoder (page 27), frequency, audio program number (absolute)

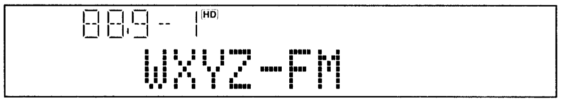
↓

Frequency
Frequency, audio program number (absolute), audio program number (relative/total)

↓

Back to "Call Sign"

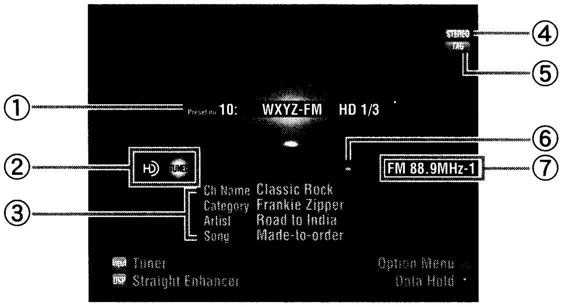
Display example (Call Sign)



■ GUI screen

Press ⑳DISPLAY on the remote control to turn on or off the information display.

The following information is displayed on the GUI screen.



Preset no 10: WXYZ-FM HD 1/3

FM 88.9MHz-1

Ch Name Classic Rock
Category Frankie Zipper
Artist Road to India
Song Made-to-order

① **Preset number, call sign, audio program number (relative/total)**
② **HD Radio icon, TUNED icon**
③ **Program category, artist name, song title, album title**
④ **STEREO icon**
⑤ **TAG icon**
⑥ **Frequency indication gauge**
⑦ **Band, frequency, audio program**

- To hold or release the displayed information, press ⑩**ENTER**. While it is held, the "HOLD" icon appears on the GUI screen.

XM® Satellite Radio tuning (U.S.A. model only)

Listening to Satellite Radio

To listen to Satellite Radio, you'll need to connect either a SIRIUS or XM Satellite Radio tuner (sold separately) to your satellite-ready receiver. Satellite Radio is available to residents of the US (except Alaska and Hawaii).

Satellite Radio delivers a variety of commercial-free music from categories ranging from Pop, Rock, Country, R&B, Dance, Jazz, Classical and many more plus coverage of all the top professional and college sports including play by play games from select leagues and teams. Additional programming includes expert sports talk, uncensored entertainment, comedy, family programming, local traffic and weather and news from your most trusted sources.

Whether you purchase a SIRIUS or XM tuner, you'll need to activate and subscribe to begin enjoying the service. Easy to follow installation and setup instructions are provided with the satellite tuners. Whichever service you choose, there are a variety of programming packages available, including the option of adding "The Best of SIRIUS" programming to your XM tuner or "The Best of XM" programming to your SIRIUS tuner, enabling you to enjoy the most popular programming among both services. The "Best of" packages are not available to SIRIUS or XM Canada subscribers at this time. Family friendly packages are also available to restrict channels featuring content that may be inappropriate for children.

To subscribe to XM, U.S. customers should visit xmradio.com or call 1-800-XMRADIO (1-800-967-2346).

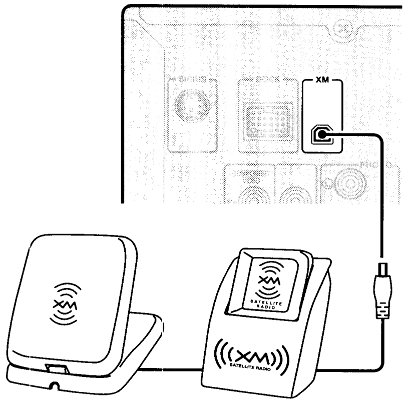
To subscribe to SIRIUS, U.S. customers can call 1-888-539-SIRI (1-888-539-7474) or visit sirius.com (US).

SIRIUS XM Radio Legal

SIRIUS, XM and all related marks and logos are trademarks of Sirius XM Radio Inc. and its subsidiaries. All other marks and logos are the property of their respective owners. All rights reserved. SIRIUS and XM subscriptions sold separately. Taxes and a one-time activation fee may apply. XM tuners and home docks or SIRIUS tuners (each sold separately) are required to receive the SIRIUS or XM satellite radio service. All programming and fees subject to change. It is prohibited to copy, decompile, disassemble, reverse engineer, hack, manipulate or otherwise make available any technology or software incorporated in receivers compatible with the SIRIUS or XM Satellite Radio Systems. **Service not available in Alaska and Hawaii.**

Connecting XM Mini-Tuner Home Dock

Connect XM Mini-Tuner and XM Mini-Tuner Home Dock (sold separately) to the XM jack on the rear panel of this unit. For details, see the operating instructions provided with the XM Mini-Tuner Home Dock.



XM Mini-Tuner and XM Mini-Tuner Home Dock (sold separately)

- To ensure optimal reception of the XM Satellite Radio signals, the XM Mini-Tuner Home Dock must be placed at or near a southerly facing window with no obstacles in the path to the sky. You can mount it indoors or outdoors. Use the "Antenna" information on the front panel display or on the GUI screen (page 36) to check the antenna reception level and adjust the orientation of the antenna.

Notes

- If "CHECK ANTENNA", "CHECK XM TUNER" or "NO SIGNAL" appears on the front panel display, the connection and setting of the antenna, XM Mini-Tuner Home Dock, or XM Mini-Tuner may not be correct.
- When "UPGRADE XM TUNER" is displayed, it means that the connected antenna is old. See page 70 for details.

Activating XM Satellite Radio

Once you have installed the XM Mini-Tuner Home Dock, inserted the XM Mini-Tuner, connected the XM Mini-Tuner Home Dock to your XM Ready® home audio system, and installed the antenna, you are ready to subscribe and begin receiving XM programming. There are three places to find your eight character XM Radio ID: on the XM Mini-Tuner, on the XM Mini-Tuner package, and on XM Channel 0. Record the XM Radio ID in the following eight squares for reference.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

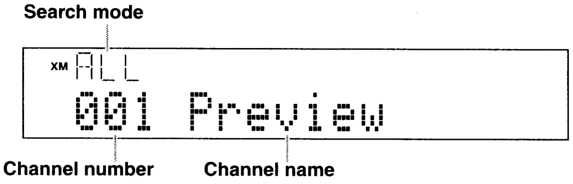
Note

- The XM Radio ID does not use the letters "I", "O", "S" or "F". Activate your XM Satellite Radio service in the U.S. online at http://activate.xmradio.com/ or call 1-800-XM-RADIO (1-800-967-2346). You will need a major credit card. XM will send a signal from the satellites to activate the full channel lineup. Activation normally takes 10 to 15 minutes, but during peak busy periods you may need to keep your XM Ready home audio system on for up to an hour. When you can access the full lineup on your XM Ready home audio system you are done.

XM Satellite Radio® operations

1 Rotate the ⓇINPUT selector (or press [4]XM) to select “XM” as the input source.

The XM Satellite Radio information (such as channel number, channel name, category, artist name, or song title) for the currently selected channel appears on the front panel display and GUI screen (page 36).



- When you select “XM” as the input source, this unit automatically recalls the previously selected channel.

Note

- If a status message or an error message appears on the front panel display or on the GUI screen, see “XM Satellite Radio” (page 70).

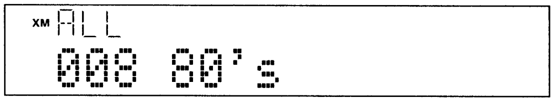
2 Search for a channel by using one of the XM Satellite Radio search modes.

- To select a channel from the all channel list, see “All Channel Search mode” on this page.
- To select a channel by category, see “Category Search mode” on this page.
- To select the desired channel directly by entering the channel number, see “Direct number access” on this page.
- To select a channel from the preset channels, see “Calling a preset channel (Preset Search mode)” (page 35).

- You can display the XM Satellite Radio information on the front panel display or on the GUI screen (page 36).
- You can set the XM Satellite Radio preset channels (page 35).

■ All Channel Search mode

Press ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽) repeatedly to search for a channel within all channels.

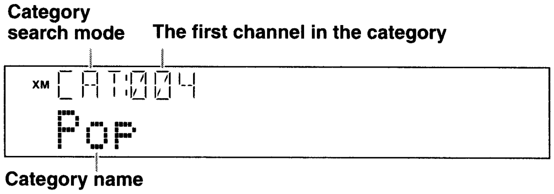


- You can search for a channel quickly by holding down ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽).
- You can skip channels to the previous or next category by pressing ⒼCATEGORY ◁ / ▷ (or [5]CATEGORY ◁ / ▷).

■ Category Search mode

1 Press ⒼCATEGORY ◁ / ▷ (or [5]CATEGORY ◁ / ▷) to select the channel category.

“CAT” is displayed on the front panel display during the channel category selection. When you select the category, the first channel in the category is selected.



Note

- If you do not operate within 10 seconds, the category search mode returns to “ALL” (All Channel Search).

2 While “CAT” is displayed on the front panel display, press ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽) repeatedly to search for a channel within the selected channel category.

- You can search for a channel quickly by pressing and holding ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽).

Note

- This unit skips the channels when this unit is in the All Channel Search mode or Category Search mode in the following cases (it is not malfunction of this unit):
  - – the channel is out of service.
  - – you do not subscribe to the channel.

■ Direct number access

In the All Channel Search mode or Category search mode, press the [12]Numeric keys to enter the desired three-digit channel number.

For example, to enter the number 123, press the **[12]Numeric keys** as “1”, “2” and “3”.

- To display the Radio ID number displayed on the front panel display, select channel “0”.
- To enter a one-digit or two-digit channel number, press the **[12]Numeric keys** on the remote control and then press **[12]ENT** to confirm the input number.
- Instead of pressing **[12]ENT** to tune into the channel immediately, you can wait a few seconds until this unit confirms the entered channel number.
- If no key is pressed within a few seconds after you enter a one-digit or two-digit number, this unit automatically confirms the entered channel number.
- If the selected channel is not available, an advisory message may appear. For details, see “XM Satellite Radio” (page 70).

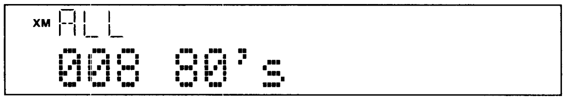
Registering XM Satellite Radio channels

You can use this feature to store up to 40 XM Satellite Radio channels. You can then recall any preset channel easily by selecting the preset channel as described in "Calling a preset channel (Preset Search mode)" on this page.

Registering preset channels

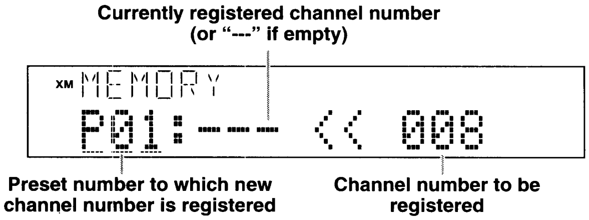
1 Search a channel you want to set as a preset channel in one of the XM Satellite Radio search modes.

For details, see "XM Satellite Radio operations" (page 34).



2 Press ⒺMEMORY (or [5]MEMORY).

The indicator on the front panel display changes as follows.


Currently registered channel number (or "---" if empty)
XM MEMORY
P01:--- << 008
Preset number to which new channel number is registered
Channel number to be registered

- By holding down ⒺMEMORY (or [5]MEMORY) for more than 2 seconds, you can skip the following steps and automatically register the selected channel to an empty preset number (next to the lastly-registered preset number).
- To cancel the preset operation, press [10]**RETURN**.

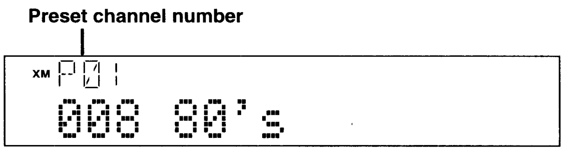
3 Press ⒻPRESET ◁ / ▷ (or [5]PRESET △ / ▽) to select the stored preset station number.

- You can also select a preset number using the [12]**Numeric keys**.
- If you select a preset number being used (currently registered channel number appears next to the preset number), the current preset channel will be overwritten.

4 Press ⒺMEMORY (or [5]MEMORY).

Calling a preset channel (Preset Search mode)

Prior to selecting a preset channel in the Preset Search mode, you must preset XM channels. For details, see "Registering preset channels" on this page.



Press ⒻPRESET ◁ / ▷ (or [5]PRESET △ / ▽) repeatedly to change the preset channel number (1 to 40).

- You can directly select a preset number by pressing a [12]**Numeric keys** while calling a preset channel.

Clearing preset channels

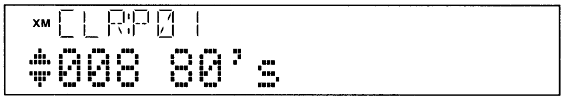
You can clear the assignments of preset XM Satellite Radio channels.

1 Press [18]OPTION on the remote control.

The Option menu for "XM" is displayed.

2 Press [10]Cursor △ / ▽ repeatedly to select "Clear Preset" and then press [10]ENTER.

3 Press [10]Cursor △ / ▽ to select the preset station number that you want to clear.



4 Press [10]ENTER to execute the clearing of the selected preset channel.

To clear the registration of multiple preset numbers, repeat steps 3 and 4. To end the operation, press [18]**OPTION**.

Displaying the XM Satellite Radio™ information

Use this feature to display the XM Satellite Radio information on the front panel display or on the GUI screen.

Note

- If a status message or an error message appears on the front panel display or GUI screen, see "XM Satellite Radio" (page 70).

■ Front panel display

Press ⒹINFO (or 6 INFO) repeatedly to toggle the following XM Satellite Radio information display modes.

Channel
Channel number, channel name

↓

Category
Channel category, channel number

↓

Artist / Song
Artist name, song title, channel number

↓

Antenna
Antenna reception level, channel number

↓

DSP Program
Current sound field program (page 25), channel number

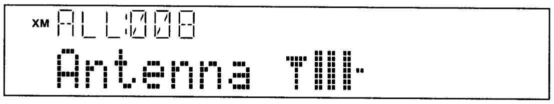
↓

Audio Decoder
Current audio decoder (page 27), channel number

↓

Back to "Channel"

Display example (Antenna)



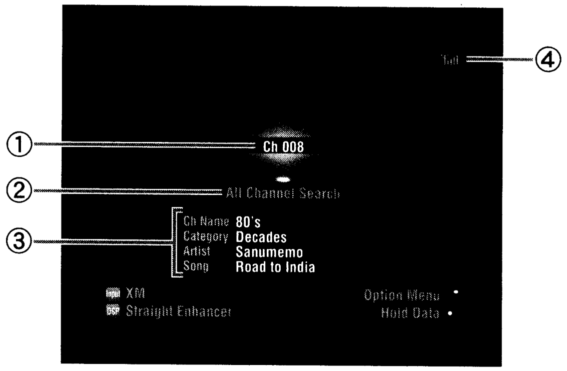
💡

- You can configure the scroll setting of the front panel display with "Front Panel Display Scroll" in the Setup menu (page 59).
- If the XM Satellite Radio information contains a character that cannot be recognized by this unit, the character will be displayed with a space.
- When an information is unavailable, "——" appears.

■ GUI screen

Press 20 DISPLAY on the remote control to turn on or off the information display.

The following information is displayed on the GUI screen.



Ch Name 80's
Category Decades
Artist Sanumemo
Song Road to India

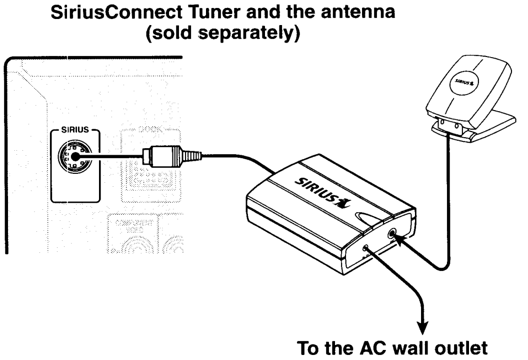
① **Channel number**
② **Search mode (page 34)**
③ **Channel name, channel category, artist name, song title**
④ **Antenna reception level**

💡

- To hold or release the displayed information, press 10 **ENTER**. While it is held, the "HOLD" icon appears on the GUI screen.

Connecting the SiriusConnect™ tuner

Connect the SiriusConnect tuner (sold separately) to the SIRIUS jack on the rear panel of this unit. For details, see the operating instructions provided with the SiriusConnect tuner.



💡
- To ensure optimal reception of the SIRIUS Satellite Radio signals, the antenna of the SiriusConnect tuner must be placed at or near a window with no obstacles in the path to the sky. The orientation of the antenna for the best reception differs depending on the area. Refer to the instruction manuals supplied with the SiriusConnect tuner for the installation of the antenna. You can mount it indoors or outdoors.
- Use the "Antenna" information in the front panel or "SIRIUS Information" screen on the GUI screen (page 41) to check the antenna reception level and adjust the orientation of the antenna.
- You need to connect the SiriusConnect tuner to the AC wall outlet.

Notes
- If "CHECK SR TUNER" or "ANTENNA ERROR" appears on the front panel display, the connection of the SiriusConnect tuner or antenna is incorrect. In such cases, check the connection of the SiriusConnect tuner and the antenna.
- If "NOT SUPPORTED" appears on the front panel display, this unit does not support the connected SiriusConnect tuner.

Activating SIRIUS Satellite Radio™ subscription

Before using the SIRIUS Satellite Radio feature, you need to activate your SIRIUS Satellite Radio subscription. To activate the subscription you need the Sirius ID which is uniquely assigned to the SiriusConnect tuner. Sirius ID is 12-digit number and it appears on the package of the SiriusConnect tuner, on the label of the SiriusConnect tuner, and when you tune into the SIRIUS Satellite Radio channel "0" (see below).

Displaying the Sirius ID of your SiriusConnect tuner

1 Rotate the Ⓡ INPUT selector (or press [4] SIRIUS) to select "SIRIUS" as the input source.

2 Press [12] 0 and then [12] ENT to display the Sirius ID of your SiriusConnect tuner.

"000 Sirius ID" and "xxxxxxxxxxxx" ("xxxxxxxxxxxx" indicates the 12-digit Sirius ID of your SiriusConnect tuner) appears alternately on the front panel display.
Write the Sirius ID below.

ID:______________________________

3 Contact SIRIUS Satellite Radio to activate your subscription.

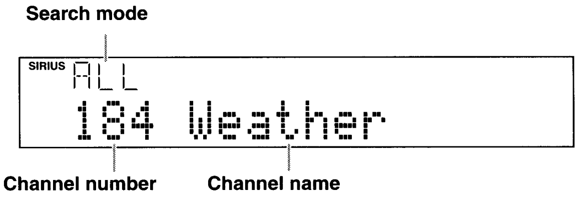
SIRIUS Satellite Radio online information
Contact for activation
URL: https://activate.siriusradio.com/
Phone: 1-888-539-SIRIUS (1-888-539-7474)

💡
- Status messages appear on the front panel display or GUI screen during the activation. For details, see "SIRIUS Satellite Radio" (page 72). Once the activation is finished, "SUB UPDATED" appears.

SIRIUS Satellite Radio™ operations

1 Rotate the Ⓡ INPUT selector (or press [4] SIRIUS) to select "SIRIUS" as the input source.

The SIRIUS indicator lights up on the front panel display and the SIRIUS Satellite Radio information (such as channel number, channel name, category, artist name, or song title) for the currently selected channel appears on the front panel display.



💡
- When you select "SIRIUS" as the input source, this unit automatically recalls the previously selected channel.

Notes
- When you have not activated your subscription yet, you can only select "184" or "000".
- If a status message or an error message appears on the front panel display or on the GUI screen, see "SIRIUS Satellite Radio" (page 72).

2 Search for a channel by using one of the SIRIUS Satellite Radio search modes.

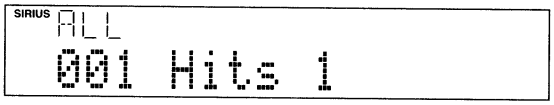
- To select a channel from the all channel list, see "All Channel Search mode" on this page.
- To select a channel by category, see "Category Search mode" on this page.
- To select the desired channel directly by entering the channel number, see "Direct number access" on this page.
- To select a channel from the preset channels, see "Calling a preset channel (Preset Search mode)" (page 39).

💡

- You can display the SIRIUS Satellite Radio information on the front panel display or on the GUI screen (page 41).
- If you tune into a channel that you do not subscribe, "CALL SIRIUS" (on the front panel display) and "CALL 888-539-SIRIUS TO SUBSCRIBE" (on the GUI screen) appear.
- You can set the SIRIUS Satellite Radio preset channels (page 39).

■ All Channel Search mode

Press ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽) repeatedly to search for a channel within all channels.



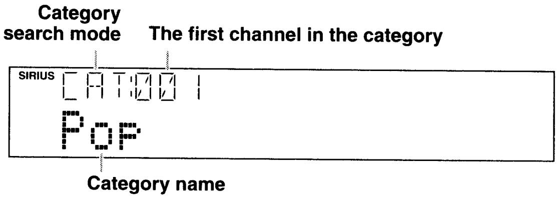
💡

- You can search for a channel quickly by holding down **ⒽTUNING/CH** ◁ / ▷ (or **[5]TUN./CH** △ / ▽).
- You can skip channels to the previous or next category by pressing **ⒼCATEGORY** ◁ / ▷ (or **[5]CATEGORY** ◁ / ▷).

■ Category Search mode

1 Press ⒼCATEGORY ◁ / ▷ (or [5]CATEGORY ◁ / ▷) to select the channel category.

"CAT" is displayed on the front panel display during channel category selection. When you select the category, the first channel in the category is selected.



Note

- If you do not operate within 10 seconds, the category search mode returns to "ALL" (All Channel Search).

2 While "CAT" is displayed on the front panel display, press ⒽTUNING/CH ◁ / ▷ (or [5]TUN./CH △ / ▽) repeatedly to search for a channel within the selected channel category.

💡

- You can search for a channel quickly by pressing and holding **ⒽTUNING/CH** ◁ / ▷ (or **[5]TUN./CH** △ / ▽).

Note

- This unit skips the channels when this unit is in the All Channel Search mode or Category Search mode in the following cases (it is not malfunction of this unit):
  - the channel is locked (page 40).
  - the channel is out of service.
  - you do not subscribe to the channel.

■ Direct number access

In the All Channel Search mode or Category search mode, press the [12]Numeric keys to enter the desired three-digit channel number.

For example, to enter the number 123, press the **[12]Numeric keys** as "1", "2" and "3".

💡

- To display the Sirius ID number displayed on the front panel display, select channel "0".
- To enter a one-digit or two-digit channel number, press the **[12]Numeric keys** on the remote control and then press **[12]ENT** to confirm the input number.
- Instead of pressing **[12]ENT** to tune into the channel immediately, you can wait a few seconds until this unit confirms the entered channel number.
- If no key is pressed within a few seconds after you enter a one-digit or two-digit number, this unit automatically confirms the entered channel number.
- If the selected channel is locked, "PIN:___" appears on the front panel display. Enter the four-digit Parental Lock code number by using the **[12]Numeric keys** or press **[12]ENT** to cancel (page 40).
- If the selected channel is not available, an advisory message may appear. For details, see "SIRIUS Satellite Radio" (page 72).

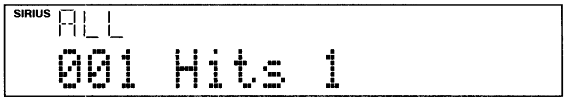
Registering SIRIUS Satellite Radio™ channels

You can use this feature to store up to 40 SIRIUS Satellite Radio channels. You can then recall any preset channel easily by selecting the preset channel group and number as described in "Calling a preset channel (Preset Search mode)" on this page.

Registering preset channels

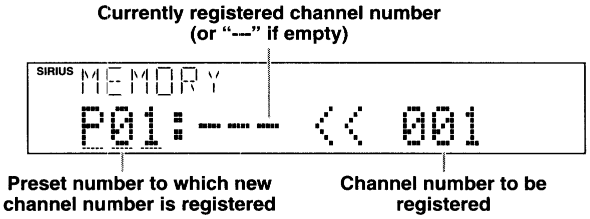
1 Search a channel you want to set as a preset channel in one of the SIRIUS Satellite Radio search modes.

For details, see "SIRIUS Satellite Radio operations" (page 37).



2 Press ⒺMEMORY (or ⑤MEMORY).

The indicator on the front panel display changes as follows.



Currently registered channel number (or "---" if empty)

Preset number to which new channel number is registered

Channel number to be registered

- By holding down ⒺMEMORY (or ⑤MEMORY) for more than 2 seconds, you can skip the following steps and automatically register the selected channel to an empty preset number (next to the lastly-registered preset number).
- To cancel the preset operation, press ⑩RETURN.

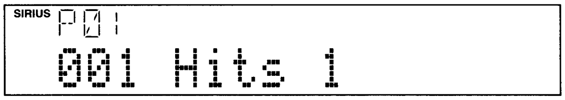
3 Press ⒻPRESET ◁ / ▷ (or ⑤PRESET △ / ▽) to select the stored preset station number.

- You can also select a preset number using the ⑫**Numeric keys**.
- If you select a preset number being used (currently registered channel number appears next to the preset number), the current preset channel will be overwritten.

4 Press ⒺMEMORY (or ⑤MEMORY).

Calling a preset channel (Preset Search mode)

Prior to selecting a preset channel in the Preset Search mode, you must preset SIRIUS channels. For details, see "Registering preset channels" on this page.



Press ⒻPRESET ◁ / ▷ (or ⑤PRESET △ / ▽) repeatedly to change the preset channel number (1 to 40).

Clearing preset channels

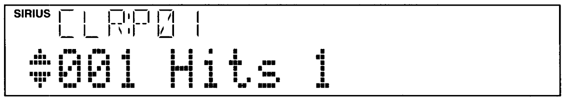
You can clear the assignments of preset SIRIUS Satellite Radio channels.

1 Press ⑱OPTION on the remote control.

The Option menu for "SIRIUS" is displayed.

2 Press ⑩Cursor △ / ▽ repeatedly to select "Clear Preset" and then press ⑩ENTER.

3 Press ⑩Cursor △ / ▽ to select the preset station number that you want to clear.



4 Press ⑩ENTER to execute the clearing of the selected preset channel.

To clear the registration of multiple preset numbers, repeat steps 3 and 4. To end the operation, press ⑱**OPTION**.

Setting the Parental Lock

You can use the Parental Lock feature to limit the access to the desired SIRIUS Satellite channels. This unit automatically skips the locked channels when this unit is in the All Channel Search mode or Category Search mode and you search a channel by pressing Ⓗ**TUNING/CH** ◁ / ▷ (or 5**TUN./CH** △ / ▽).

Setting the code number and the locking channels

Use this feature to set the Parental Lock code number (PIN) and select the channels to be locked.

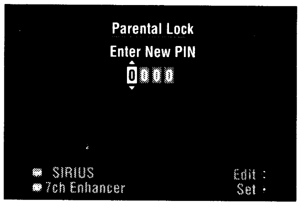
1 Press 18OPTION on the remote control.

The Option menu for "SIRIUS" is displayed.

2 Press 10Cursor △ / ▽ repeatedly to select "Parental Lock" and then press 10ENTER.

3 Use 10Cursor ◁ / ▷ (to select a digit to edit) and 10Cursor △ / ▽ (to select a number) to enter the desired 4-digit code number.

If you have entered a code number before, enter the same code number.



Parental Lock

Enter New PIN

0000

SIRIUS

7ch Enhancer

Edit :

Set •

The entered code number is needed for tuning in the channel or unlocking the channel. Write it down below.

Code number: ______________________

4 Press 10ENTER.

The confirmation screen appears.

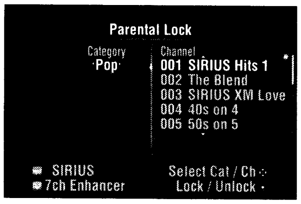
5 Press 10ENTER again to confirm the code number.

"OK" and then the SIRIUS Satellite Radio channel list appears.

Note

- If a code number is already registered and you enter the different number, "Wrong" appears and the screen returns to step 3. Enter the correct code number.
- If you forget the Parental lock code or want to change it, reset it using "SR PIN" (page 64).

6 Press 10Cursor ◁ / ▷ to select the category of a channel you want to lock.



Parental Lock

Category

Pop

Channel

001 SIRIUS Hits 1

002 The Blend

003 SIRIUS XM Love

004 40s on 4

005 50s on 5

SIRIUS

7ch Enhancer

Select Cat / Ch ÷

Lock / Unlock •

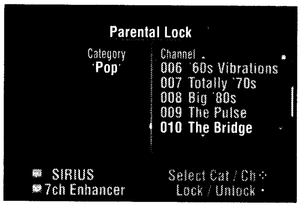
7 Press 10Cursor △ / ▽ to select a channel you want to lock.

Notes

- You can also select a channel by using 5**CATEGORY** ◁ / ▷ or 5**TUN./CH** △ / ▽.
- While the SIRIUS Satellite Radio channel list screen is displayed, sound of the selected channel is output even the channel is locked.

8 Press 10ENTER to lock the selected channel.

A check mark appears next to the locked channel on the GUI screen. You can toggle channel lock and unlock as you press 10**ENTER**.



Parental Lock

Category

Pop

Channel

006 '60s Vibrations

007 Totally '70s

008 Big '80s

009 The Pulse

010 The Bridge

SIRIUS

7ch Enhancer

Select Cat / Ch ÷

Lock / Unlock •

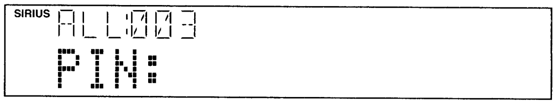
9 Repeat steps 6 through 8 to lock all the desired channels.

10 Press 10RETURN repeatedly to exit the "Parental Lock" screen.

This unit is tuned into the last channel you select in the "Parental Lock" screen. If the channel is locked, this unit is tuned into "184 Weather/Emergency" or "000 Sirius ID".

Tuning into the locked channels

Tune into the channel with direct number access (page 38) or Preset Search mode (page 39). When you tune into the locked channel, "LOCKED" appears on the front panel display and GUI screen, followed by the following message. Enter the set Parental lock code by using the 12**Numeric keys**. To cancel this operation, press 12**ENT**.



SIRIUS ALL:003

PIN:

Note

- If an incorrect number is entered, "Wrong" appears on the front panel display or the GUI screen and this unit is tuned into the previously selected channel.

Displaying the SIRIUS Satellite Radio™ information

Use this feature to display the SIRIUS Satellite Radio information on the front panel display or on the GUI screen.

Note

- If a status message or an error message appears on the front panel display or GUI screen, see "SIRIUS Satellite Radio" (page 72).

■ Front panel display

Press ⒹINFO (or 6INFO) repeatedly to toggle the following SIRIUS Satellite Radio information display modes.

Channel
Channel number, channel name

↓

Category
Channel category, channel number

↓

Artist/Song
Artist name, song title, channel number

↓

Composer
Composer name, channel number

↓

Antenna
Antenna reception level, channel number

↓

DSP Program
Current sound field program (page 25)

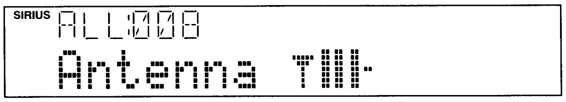
↓

Audio Decoder
Current audio decoder (page 27)

↓

Back to "Channel"

Display example (Antenna)

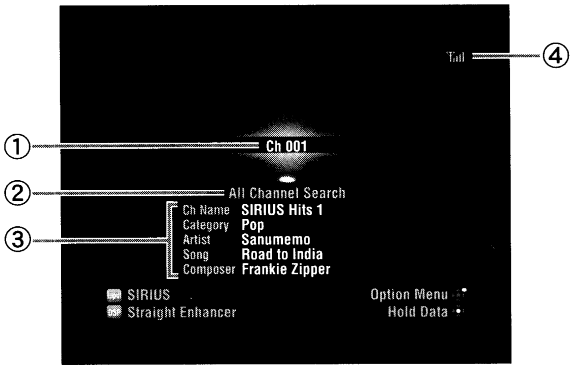


- You can configure the scroll setting of the front panel display with "Front Panel Display Scroll" in the Setup menu (page 59).
- If the SIRIUS Satellite Radio information contains a character that cannot be recognized by this unit, the character will be displayed with a space.
- When the antenna of the SiriusConnect tuner cannot receive the signals, "ACQUIRING" appears on the front panel display.
- When an information is unavailable, "——" appears.

■ GUI screen

Press 20DISPLAY on the remote control to turn on or off the information display.

The following information is displayed on the GUI screen.



Ch 001

All Channel Search

Ch Name SIRIUS Hits 1
Category Pop
Artist Sanumemo
Song Road to India
Composer Frankie Zipper

① **Channel number**

② **Search mode (page 38)**

③ **Channel name, channel category, artist name, song title, composer name**

④ **Antenna reception level**

- To hold or release the displayed information, press 10**ENTER**. While it is held, the "HOLD" icon appears on the GUI screen..

Using iPod™

Once you have stationed your iPod in a Yamaha iPod universal dock (such as the YDS-11, sold separately) connected to the DOCK terminal on the rear panel of this unit (page 17), you can enjoy playback of your iPod using the supplied remote control or the menu displayed on the GUI screen. You can also use the Compressed Music Enhancer mode of this unit to improve the sound quality of the compression artifacts (such as MP3 format) stored on your iPod (page 27).

Notes

- iPod touch, iPod (Click and Wheel including iPod classic), iPod nano, and iPod mini are supported.
- Some features may not be compatible depending on the model or the software version of your iPod.
- Some features may not be available depending on the model of Yamaha iPod universal dock. The following sections describe the procedure when using the YDS-11.

- Once the connection between your iPod and this unit is complete, "iPod connected" appears on the front panel display.
- For a complete list of status messages that appear on the front panel display and GUI screen, see the "iPod" section on page 73.
- (U.S.A. model only)
  Once the connection between an iPod that supports iTunes Tagging feature and this unit is complete, this unit transmits iTunes Tagging information to the iPod (page 31).

Controlling iPod™

You can control your iPod when you set it in the iPod universal dock and switch the input source to DOCK. The operations of your iPod can be done with the aid of the video display (menu browse mode) or without it (simple remote mode).

When you connect your iPod to this unit, you can perform the following operations with the remote control.

Key		Function
	ENTER	Subsequent menu
[10]	△	Menu up
	▽	Menu down
	◁	Previous menu
	▷	Subsequent menu
[11]	◁◁	Search backward (Press and hold)
	▷▷	Search forward (Press and hold)
	▷▷|	Skip forward
	|◁◁	Skip backward
	□	Stop
	▯▯	Pause (Menu browse mode) Play/Pause (Simple remote mode)
	▷	Play (Menu browse mode) Play/Pause (Simple remote mode)
[20]	**DISPLAY**	Switch between Menu browse mode and Simple remote mode

Controlling iPod in simple remote mode

You can perform basic iPod operations (play, stop, skip, etc.) using the supplied remote control without displaying the menu on the GUI screen. You can also directly control your iPod in this mode.

Controlling iPod in menu browse mode

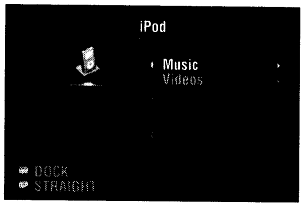
You can browse song or video files stored on your iPod using the GUI screen. You cannot directly control your iPod in this mode.

- "_"(underscore) is displayed for characters that this unit cannot display.

1 Rotate the ⓇINPUT selector (or press [4]DOCK) to select "iPod" (DOCK) as the input source.

2 Press [20]DISPLAY on the remote control.

The following screen appears on the GUI screen.



3 Press [10]Cursor △ / ▽ to select "Music" or "Videos" and then press [10]Cursor ▷.

- Select "Music" to browse music files.
- Select "Videos" to browse video files.

Note

- The "Videos" menu does not appear unless the both your iPod and Yamaha iPod universal dock support the video browsing feature.

4 Press [10]Cursor △ / ▽ / ◁ / ▷ to select a menu item and then press [10]ENTER to start playback.

Menu items of “Music”

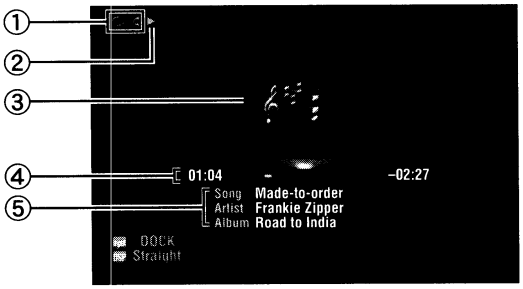
Playlists, Artists, Albums, Songs, Genres, Composers

- Playlists > Songs
- Artists > Albums > Songs
- Albums > Songs
- Songs
- Genres > Artists > Albums > Songs
- Composers > Albums > Songs

Menu items of “Videos”

Menu items vary depending on the files stored on your iPod.

■ Play information display



01:04 -02:27
Song Made-to-order
Artist Frankie Zipper
Album Road to India
DOCK
Straight

① Shuffle and repeat icons
② ▶ (playback), ❚❚ (pausing), ▶▶ (search forward) and ◀◀ (search backward)
③ Album art (image of CD jacket, etc)
④ Elapsed time, progress bar, remaining time
⑤ Song title, artist name, album title

- You can switch the information displayed on the front panel display by pressing ⒹINFO (or [6]INFO).
- Album arts are available only when the file contains image data.

Shuffle/repeat playback

When controlling iPod in simple remote mode, operate the iPod directly to set the shuffle and repeat playback.

1 Press [20]DISPLAY to switch to menu browse mode while “DOCK” is selected as the input source.

2 Press [18]OPTION on the remote control.

The Option menu for “iPod” is displayed (page 47).

3 Press [10]Cursor △ / ▽ to select “Shuffle” or “Repeat” and then press [10]ENTER.

4 Press [10]Cursor ◁ / ▷ to select the desired playback style.

Shuffle:

- Select “Off” if you do not want to play back in random order.
- Select “Songs” to play back songs in random order.
- Select “Albums” to play back albums in random order.

Repeat:

- Select “Off” if you do not want to play back repeatedly.
- Select “One” to repeat each song.
- Select “All” to repeat all songs.

To return to the previous screen, press [10]RETURN.

- When the shuffle function is on, “ ⤨ ” appears on the GUI screen.
- When “Repeat” is set to “One” or “All”, “ 🔂 ” or “ 🔁 ” appears on the GUI screen.

Using Bluetooth™ components

You can connect a Yamaha Bluetooth wireless audio receiver (such as YBA-10, sold separately) to the DOCK terminal of this unit and enjoy the music contents stored in your Bluetooth component (such as a portable music player) without wiring between this unit and the Bluetooth component. You need to perform "Pairing" the connected Bluetooth wireless audio receiver and your Bluetooth component in advance.

Note

- This unit supports A2DP (Advanced Audio Distribution Profile) of the Bluetooth profile.

Pairing the Bluetooth™ wireless audio receiver and your Bluetooth component

"Pairing" refers to the operation of registering a Bluetooth component for Bluetooth communications. Pairing must be performed when using a Bluetooth component with the Bluetooth wireless audio receiver connected to this unit for the first time or if the pairing data has been deleted.

- You only need the pairing operation for the first time that you use the Bluetooth component with the Bluetooth wireless audio receiver.
- Pairing requires operations on this unit and on the other component with which Bluetooth communications are to be established. If necessary, refer to the other component's operating instructions.

■ Pairing the Bluetooth™ wireless audio receiver and your Bluetooth™ component

To ensure security, a time limit of 8 minutes is set for the pairing operation. You are recommended to read and fully understand all the instructions before starting.

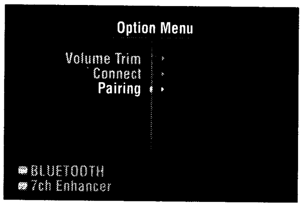
1 Rotate the ⓇINPUT selector (or press [4]DOCK) to select "BLUETOOTH" (DOCK) as the input source.

2 Turn on the Bluetooth component you want to pair with and set it to pairing mode.

For details on operation of the Bluetooth component, refer to the manual supplied with it.

3 Press [18]OPTION on the remote control.

The Option menu for "BLUETOOTH" is displayed (page 47).



4 Press [10]Cursor ▽ to select "Pairing" and then press [10]ENTER.

"Searching" appears and the pairing operation starts.

- To cancel pairing, press [10]**RETURN**.
- You can also start pairing operation by holding down Ⓔ**MEMORY** on the front panel.

5 Make sure the Bluetooth component recognizes the Bluetooth wireless audio receiver.

If the Bluetooth component detects the Bluetooth wireless audio receiver, "YBA-10 YAMAHA" (example) appears in the Bluetooth device list.

6 Select the Bluetooth wireless audio receiver in the Bluetooth device list, and enter a pass key "0000" into the Bluetooth component.

When pairing is complete, "Completed" appears on the front panel display.

- The Yamaha Bluetooth wireless audio receiver can be paired with up to eight Bluetooth components. When pairing is conducted successfully with a ninth component and the pairing data is registered, the pairing data for the least recently used other component is cleared.

Playback of the Bluetooth™ component

1 Rotate the ⓇINPUT selector (or press [4]DOCK) to select "BLUETOOTH" (DOCK) as the input source.

2 Press [18]OPTION on the remote control.

3 Press [10]Cursor ▽ to select "Connect" and then press [10]ENTER.

After you execute "Connect", communication with the Bluetooth component is established. When the connected Bluetooth wireless audio receiver recognizes the Bluetooth component, "BT Connected" appears on the front panel display.

- When you press [10]**ENTER** on the remote control, the connected Bluetooth wireless audio receiver searches and connects to the last connected Bluetooth component. If the Bluetooth wireless audio receiver cannot find the Bluetooth component, "Not found" appears on the front panel display.
- To disconnect the Bluetooth wireless audio receiver from the Bluetooth component, display the Option menu again, select "Disconnect" and then press [10]**ENTER**.

4 Start playback of the Bluetooth component.

Using USB storage devices

You can enjoy playback of WAV (PCM format only), MP3, WMA , MPEG-4 AAC and FLAC files stored on your USB memory device or USB portable player connected to the USB port on the front panel of this unit. This unit supports USB mass storage class devices (FAT 16 or FAT 32 format, except USB HDDs).

Notes

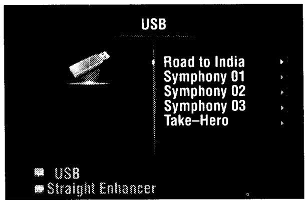
- You can play back only the files stored in the first partition.
- Some files may not be playable depending on models and types of USB storage devices.

Playback of the USB storage device

1 Connect your USB storage device to the ⓋUSB port on the front panel (page 17).

2 Rotate the ⓇINPUT selector (or press [4]USB) to select "USB" as the input source.

The GUI screen appears on the video monitor.



If you have connected the USB storage device to this unit before, playback of the music file played at the last time automatically starts.

3 Press [10]Cursor △ / ▽ / ◁ / ▷ to select a music file to play back.

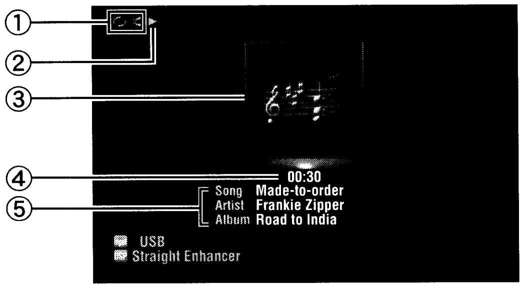
- To select a file or folder, press [10]**Cursor** △ / ▽.
- To confirm the selection, press [10]**Cursor** ▷ or [10]**ENTER**.
- To return to the previous menu, press [10] ◁.

4 Press [10]ENTER to start play back.

You can also perform the following operations with remote control.

Key		Function
[11]	▷▷|	Skip forward during playback
	|◁◁	Skip backward during playback
	□	Stop
	▷	Play

■ Play information display



① Shuffle and repeat icons
② ▶ (playback)
③ Album art (image of CD jacket, etc)
④ Elapsed time
⑤ Song title, artist name, album title

- Album arts are available only when the file contains image data.

Shuffle/repeat playback

1 Press [18]OPTION on the remote control while "USB" is selected as the input source.

The Option menu for "USB" is displayed (page 47).

2 Press [10]Cursor △ / ▽ to select "Shuffle" or "Repeat" and then press [10]ENTER.

3 Press [10]Cursor ◁ / ▷ to select the desired playback style.

Shuffle:

- Select "Off" if you do not want to play back in random order.
- Select "On" to play back music files in random order.

Repeat:

- Select "Off" if you do not want to play back repeatedly.
- Select "One" to repeat each music file.
- Select "All: to repeat all music files in the folder.

- When the shuffle function is on, " ⤮ " appears on the GUI screen.
- When "Repeat" is set to "One" or "All", " 🔂 " or " 🔁 " appears on the GUI screen.

4 To exit the Option menu, press [18]OPTION.

Other functions

Using the sleep timer

The sleep timer is useful if you want to go to sleep while this unit is playing or recording a source.

Press 17 **SLEEP** repeatedly to set the amount of time.

Each time you press 17 **SLEEP**, the front panel display changes as shown below.

→ Sleep 120min. → Sleep 90min.

Sleep Off ← Sleep 30min. ← Sleep 60min.

When the sleep timer is set, the SLEEP indicator on the front panel display lights up.
Press 17 **SLEEP** on the remote control repeatedly until "Sleep Off" appears on the front panel display.

Using the HDMI™ control function

You can operate the following functions of this unit with the remote control of your TV when connecting this unit and the TV (HDMI control function supported) with HDMI.

- Turning on this unit or to the standby (conjunction with TV)
- Adjusting the volume
- Selecting a device to reproduce TV sounds (this unit or TV)

Please refer to the manual supplied with your TV and check the following.
- The HDMI control function is enabled on your TV.
- This unit is appropriately connected to your TV.

- The HDMI control-compatible components include Panasonic VIERA Link compatible TV, DVD player/recorder and Blu-ray Disc player.
- If you connect this unit and your DVD player, Blu-ray player or HD DVD player (HDMI control function supported) with HDMI, you can also control the device.
- We suggest that you use products (TV, DVD player, Blu-ray player or HD DVD player) from the same manufacturer.

1 Turn on all devices connected to this unit with HDMI.

For details, refer to the manual supplied with your device.

2 Enable the HDMI control function on each device.

For this unit, set "HDMI Control" to "On" (page 58).
For external devices, refer to the manual supplied with each device to enable the HDMI control function.

- You do not need to perform steps 1 through 2 from the next time.

3 Turn off the TV.

Other HDMI control devices are also turned off in conjunction with the TV. If not, turn off them manually.

4 Turn on the TV.

Other HDMI control devices are also turned on in conjunction with the TV. If not, turn on them manually.

5 Select this unit as the input source of the TV.

6 Turn on the HDMI control device (DVD player or Blu-ray player) connected to this unit.

For this unit, check that the DVD player or Blu-ray player is selected as an input source of this unit. If not, select it as an input source.
For external devices, check that the TV screen shows the playback picture of the player.

7 Check if the HDMI control function works (turn on this unit or adjust the volume level using the remote control of the TV).

Note

- In case the HDMI control function does not work, check the followings. Also, turning off (unplug) and turning on (plug) the TV may be effective.
  - "HDMI Control" is set to "On" on this unit.
  - The HDMI control function is enables on the TV.

- This unit automatically selects the TV scene (page 22) when you select this unit as the device to reproduce TV sounds using the remote control of your TV. That is, if you connect an audio output jack of your TV to the AV 1 (OPTICAL) jack of this unit, you can enjoy TV sounds with the specified sound field program soon.

ADVANCED OPERATION

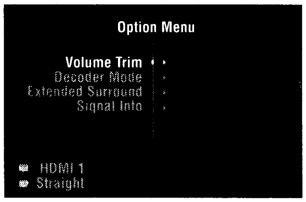
Setting the option menu for each input source (Option menu)

This unit has an Option menu of frequently used menu items for input sources compatible with this unit. The procedure for setting the Option menu items is described below.

1 Rotate the ⑧INPUT selector (or press [4]Input selection key) to select the desired input source.

2 Press [18]OPTION on the remote control.

The Option menu for the selected input source is displayed. For details about the Option menu items of each input source, see "Option menu items" on this page.



3 Press [10]Cursor △ / ▽ to select the desired menu item and then press [10]ENTER.

Parameters of the selected menu item are displayed.

4 Press [10]Cursor △ / ▽ / ◁ / ▷ to select the desired setting and then press [10]ENTER

5 To exit the Option menu, press [18]OPTION.

To return to the previous menu, press [10]**RETURN**.

Note

- In case [10]**Cursor** △ / ▽ / ◁ / ▷ or other keys do not work after closing the Option menu, press [4]**Input selection key** to select the current input source again.

Option menu items

The following menu items are provided for each input source.

Input Source	Menu item			
HDMI1-4	Volume Trim	Decoder Mode	Extended Surround	Signal Info
AV1-4	Volume Trim	Decoder Mode	Extended Surround	Signal Info
AV 5-6	Volume Trim			
AUDIO1/2	Volume Trim			
V-AUX	Volume Trim			
PHONO	Volume Trim			
USB	Volume Trim	Signal Info	Shuffle	Repeat
iPod (DOCK)	Volume Trim	Shuffle	Repeat	
BLUETOOTH (DOCK)	Volume Trim	Connect/ Disconnect	Pairing	
TUNER	Volume Trim	Audio Mode	Auto Preset	Clear Preset
SIRIUS	Volume Trim	Clear Preset	Parental Lock	
XM	Volume Trim	Clear Preset		
MULTI CH	Volume Trim	Video Out		

Details of the menu items are as follows:

- The default settings are marked with "*".

Volume Trim

Input source: All

Adjustable range: –6.0dB to 0.0dB* to +6.0dB
(in 0.5 dB steps)

Reduces any change in volume when switching input sources by correcting volume differences between input sources.

You can set this parameter for each input source.

Decoder Mode

Input source: HDMI1-4, AV1-4
Choices: Auto*, DTS

Selects DTS digital audio signals for reproduction.

Auto	Automatically selects audio input signals.
DTS	Selects DTS signals only. Other input signals are not reproduced.

Extended Surround

Input source: HDMI1-4, AV1-4
Choices: Auto*, PLIIxMovie, PLIIxMusic, EX/ES, Off

Selects whether to reproduce multi-channel input signals in 6.1- or 7.1-channel when surround back speakers are used.

Auto	Automatically selects the most suitable decoder according to whether a flag for reproducing surround back channel is present, and reproduces the signals in 6.1- or 7.1-channel.
PLIIx Movie	Always reproduces signals in 6.1- or 7.1-channel using the PLIIxMovie decoder whether or not surround back channel signals are contained. You can select this parameter when two surround back speakers are connected.
PLIIx Music	Always reproduces signals in 6.1- or 7.1-channel using the PLIIxMusic decoder whether or not surround back channel signals are contained. You can select this parameter when one or two surround back speakers are connected.
EX/ES	Automatically selects the most suitable decoder for input signals whether or not the flag for reproducing surround back channel is present, and always reproduces signals in 6.1-channel.
Off	Always reproduces original signals whether or not the flag for reproducing surround back channel is present.

Signal Info

Input source: HDMI1-4, AV1-4, USB

Displays information on audio and video signals on the GUI screen and front panel display. You can change items to be displayed using **10 Cursor** △ / ▽.

- Audio information

Format	Format of digital audio signals.
Channel	The number of input signal channels (front/surround/LFE). For example, if input signal channels are 3 front channels, 2 surrounds and LFE, "3/2/0.1" is displayed. If a channel that cannot be expressed as the above, a total number of channels such as "5.1ch" may be displayed.
Sampling Frequency	The sampling frequency per second in analog-to-digital conversion.
Bitrate	The bit rate of input signal per second.

Notes

- "No Signal" is displayed when no signals are input and "---" is displayed when signals that this unit cannot recognize are input.
- The bit rate may vary during playback.

- Video information

Video In	Format and resolution of video input signal.
Video Out	Format and resolution of video output signal.
Message	Error messages about HDMI signals and HDMI components. See the following for details of the error messages.

- HDMI error message
(appears only when an error has occurred)

HDCP Error	HDCP authentication failed.
Device Over	The number of HDMI components connected is over the limit.
Out of Res.	The connected monitor is not compatible with the video input signal.

Audio Mode

Input source: TUNER
Choices: Auto*, Mono

Sets FM (or HD Radio) broadcasting receiving mode.

Auto	Receives in stereo mode by priority.
Mono	Receives in monaural mode. You can get a better reception in monaural mode.

Note

- (U.S.A. model only)
Select "Auto" to tune into HD Radio stations. When "Mono" is selected, you can tune into analog stations only.

Auto Preset

Input source: TUNER

Automatically detects FM radio stations and registers them as preset stations (page 29).

💡

- (U.S.A. model only)
Automatically detects FM and AM HD Radio stations and analog FM radio stations and registers them as preset stations.

Clear Preset

Input source: TUNER, XM, SIRIUS

Clears preset station (TUNER: page 30, XM: page 35, SIRIUS: page 39).

Parental Lock

Input source: SIRIUS

Set the Parental Lock (page 40).

Shuffle

Input source: iPod (DOCK), USB
Choices: iPod (DOCK): Off*, Songs, Albums
USB: Off*, On

Changes the shuffle playback style.

Repeat

Input source: iPod (DOCK), USB
Choices: Off*, One, All

Changes the repeat playback style.

Connect / Disconnect

Input source: BLUETOOTH (DOCK)

Connects to or disconnects from a Bluetooth component.

Pairing

Input source: BLUETOOTH (DOCK)

Performs pairing of this unit and a Bluetooth component (page 44).

Video Out

Input source: MULTI CH
Choices: AV1 to AV6, V-AUX, Off*

Specifies a video signal to be output during a multi-channel audio reproduction. For details, see “Selecting a video signal to be output during a multi-channel audio reproduction” on this page.

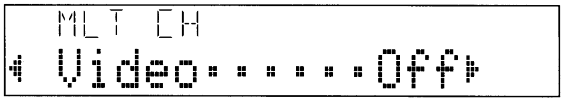
Selecting a video signal to be output during a multi-channel audio reproduction

This function enables this unit to output video signals when “MULTI CH” is selected as the input source. For example, if your DVD player has analog multi-channel output jacks, connect them to the MULTI CH INPUT jacks of this unit while making a video connection (component video or composite). Then follow the procedure below to select the video to be output during a multi-channel audio reproduction.

1 **Rotate the ⓇINPUT selector (or press [4]MULTI) to select “MULTI CH” as the input source.**

2 **Press [18]OPTION on the remote control.**
The Option menu for “MULTI CH” is displayed.

3 **Press [10]Cursor △ / ▽ to select “Video Out” and then press [10]ENTER.**



MLT CH
◂ Video......Off▸

4 **Press [10]Cursor ◁ / ▷ to select a video input jack to be used during a multi-channel audio reproduction.**
–AV1-2 (COMPONENT VIDEO)
–AV3-6 (VIDEO)
–V-AUX (VIDEO)
–Off (no video output)

5 **To exit the Option menu, press [18]OPTION.**

Editing surround decoders/sound field programs

Setting sound field parameters

Although the field sound programs would satisfy you as they are with the default parameters, you can arrange sound effect or decoders suitable for acoustical conditions of sources or rooms by setting the parameters.

- You cannot configure the parameters when "Memory Guard" is set to "On" (page 60).

---

1 Turn on the video monitor connected to this unit.

---

2 Press [9]ON SCREEN on the remote control.

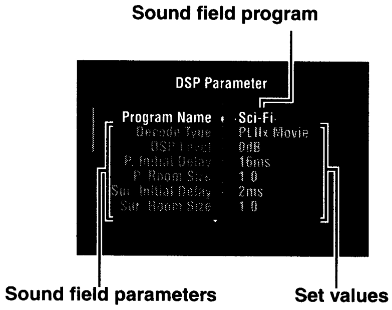
The GUI screen appears on the video monitor.

---

3 Press [10]Cursor ▽ to select "Setup" and then press [10]ENTER.

---

4 Press [10]Cursor △ / ▽ to select "DSP Parameter" and then press [10]ENTER.



DSP Parameter

Program Name ◂ Sci-Fi
Decode Type PLIIx Movie
DSP Level 0dB
P. Initial Delay 16ms
P. Room Size 1.0
Sur. Initial Delay 2ms
Sur. Room Size 1.0

---

5 Press [10]Cursor △ / ▽ to select "Program Name" and then press [10]Cursor ◁ / ▷ to select a sound field program to edit.

---

6 Press [10]Cursor △ / ▽ to select a parameter to edit and then press [10]Cursor ◁ / ▷ to change the setting.

For details on functions and adjustable ranges of the sound field parameters, see "Sound field parameters" on this page.

- Repeat steps 5 and 6 to change other sound field program parameters.

---

7 To turn off the GUI screen, press [9]ON SCREEN.

> To initialize the parameters of the selected sound field program, press [10]**Cursor** ▽ repeatedly to select "Initialize" and then press [10]**Cursor** ▷. Then, press [10]**Cursor** ▷ again to execute the initialization or [10]**Cursor** ◁ to cancel it.

Sound field parameters

- The default settings are marked with "*".

CINEMA DSP basic parameters

DSP Level

Adjustable range: –6dB to 0dB* to +3dB

Fine adjusts an effect level (level of the sound field effect to be added). You can adjust the level of the sound field effect while checking sound levels. Adjust "DSP Level" as follows.

- The effect sound is too soft.
- There are no differences between effects of the sound field programs.

→Increase the effect level.

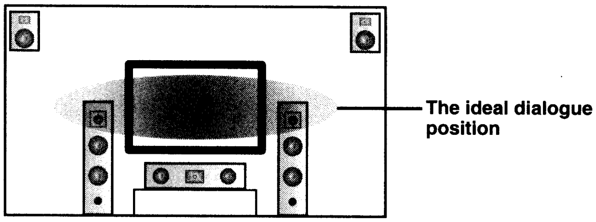
- The sound is dull.
- The sound field effect is added too much.

→Reduce the effect level.

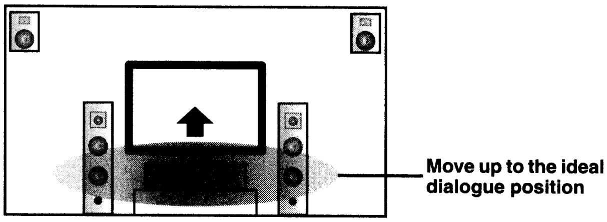
Dialogue Lift

Choices: 0* to 5

Use this feature to adjust the vertical position of the dialogues in movies. The ideal position of the dialogues is at the center of the video monitor screen.



If the dialogues are heard at the lower position of the video monitor screen, increase the value of "Dialogue Lift".



When the value is set to zero, the position is at the lowest. The position gets higher as you increase the value.

Notes

- This setting is available only when "Extra Speaker Assignment" is set to "Presence" (page 56).
- You cannot move the dialogue position down from the initial dialogue position.

3D DSP

Choices: On*, Off

When CINEMA DSP 3D is enabled, sets whether to use sound field programs in 3D mode.

Note

- This setting is available only when “Extra Speaker Assignment” is set to “Presence” (page 56).

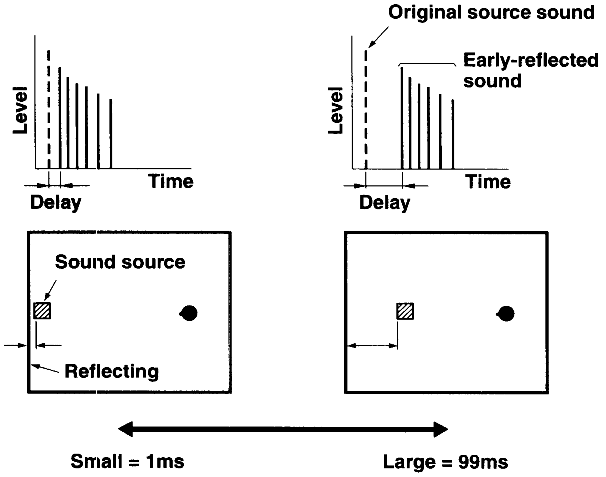
Sound field parameters for advanced configurations

■ Parameters for adjusting early-reflected sound

Initial Delay / P. Initial Delay / Sur. Initial Delay / Sur. Back Initial Delay

Adjustable range: 1 to 99ms (Initial Delay / P. Initial Delay), 1 to 49ms (Sur. Initial Delay / Sur. Back Initial Delay)

Adjusts attenuation characteristics of early-reflected sound. You can create a lively sound field (with a high reverberant sound level) as you increase the value, and a dead sound field (with a low reverberant sound level) as you decrease the value. Creating either a lively sound field or a dead sound field in an actual music hall is determined by the acoustic absorption characteristics of reflection surfaces. A dead sound field is created when the attenuation time is short while a lively sound field is created when the attenuation time is long.


Original source sound
Early-reflected sound
Level
Time
Delay
Level
Time
Delay
Sound source
Reflecting
Small = 1ms
Large = 99ms

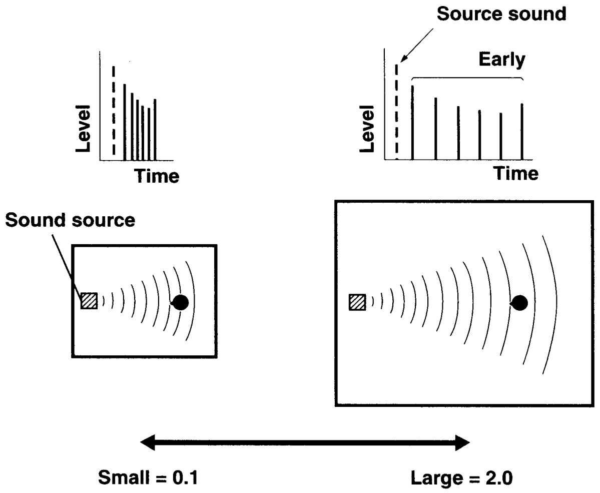
- We recommended that you adjust the size of corresponding sound field when you adjust the delay time.

■ Parameters for specifying room size

Room Size / P. Room Size / Sur. Room Size / Sur. Back Room Size

Adjustable range: 0.1 to 2.0

Produces different senses of sound expansion according to room sizes specified. In a large size room such as a music hall, the duration from when reflected sound is heard until when the next reflected sound is heard is long. Thus, different senses of sound expansion can be created by changing the duration. 1.0 is the original room size. When this parameter is set to 2.0, each side of the room is defined as twice larger than the original room size.

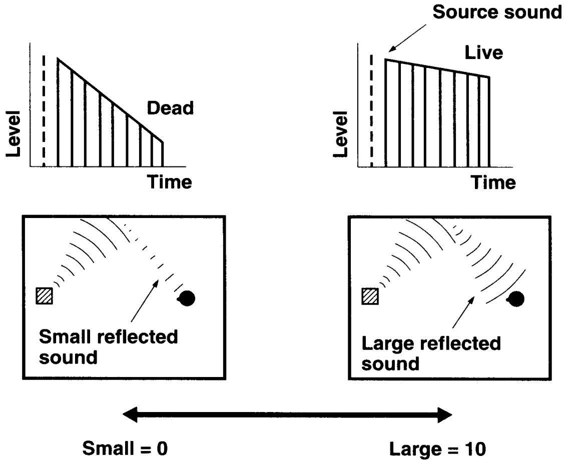

Source sound
Early
Level
Time
Level
Time
Sound source
Small = 0.1
Large = 2.0

■ Parameters for defining attenuation characteristics of early-reflected sound

Liveness / P. Liveness / Sur. Liveness / Sur. Back Liveness

Adjustable range: 0 to 10

Adjusts the attenuation of reflected sound. You can create a lively sound field (with a high reverberant sound level) as you increase the value, and a dead sound field (with a low reverberant sound level) as you decrease the value. Creating either a lively sound field or a dead sound field in an actual music hall is determined by the acoustic absorption characteristics of reflection surfaces. A dead sound field is created when the attenuation time is short while a lively sound field is created when the attenuation time is long.

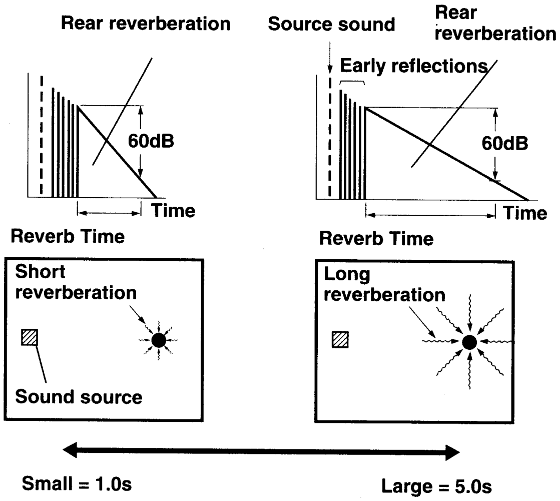

Source sound
Live
Dead
Level
Time
Level
Time
Small reflected sound
Large reflected sound
Small = 0
Large = 10

■ Parameters for adjusting reverberant sound

Reverb Time

Adjustable range: 1.0 to 5.0s

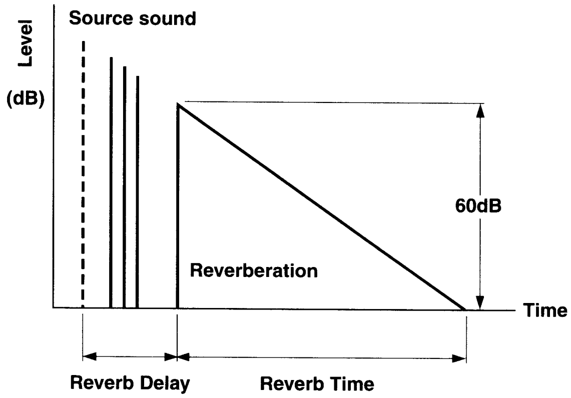
Reverb Time parameter adjusts the attenuation time of the rear reverberant sound based on the time that about 1kHz reverberant sound takes for 60dB of attenuation. Reverberant sound attenuates faster as you decrease the value. Reverb Time adjustment allows you to create a natural reverberant sound, by setting the attenuation time longer for a sound source or room with less echo, or shorter for a sound source or room with more echo.


Rear reverberation
Source sound
Rear reverberation
Early reflections
60dB
60dB
Time
Time
Reverb Time
Reverb Time
Short reverberation
Long reverberation
Sound source
Small = 1.0s
Large = 5.0s

Reverb Delay

Adjustable range: 0 to 250ms

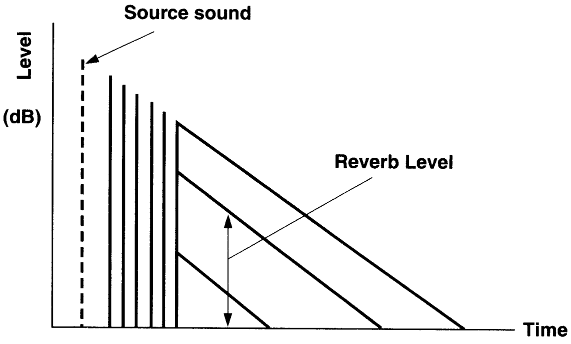
Reverb Delay parameter adjusts the time difference between the beginning of the direct sound and the beginning of the reverberation sound. The larger the value, the later the reverberation sound begins. Increasing the value of Reverb Delay allows you to create a reverberant sound in a wider area for the same Reverb Time.


Level
(dB)
Source sound
60dB
Reverberation
Time
Reverb Delay
Reverb Time

Reverb Level

Adjustable range: 0 to100%

Reverb Level parameter adjusts the reverberation sound level. Increasing the value of Reverb Level makes the reverbration sound level higher, which allows you to create more echo.


Source sound
Level
(dB)
Reverb Level
Time

Parameters for certain sound field programs

■ Parameter for MOVIE sound field programs

Decode Type

Choices: PLIIx Movie (PLII Movie), Neo:6 Cinema

Selects the decoder type for use with the MOVIE sound field programs.

Note

- You cannot select a decoder for the following MOVIE sound field programs.
  - – Mono Movie
  - – Sports
  - – Action Game
  - – Roleplaying Game

■ Parameter for 2ch Stereo

Direct

Choices: Auto*, Off

Automatically bypasses the DSP circuit and tone control circuit when an analog sound source is selected as the input source. You can enjoy a higher quality sound.

Auto	Outputs sound by bypassing the DSP circuit and tone control circuit when the “Bass” and “Treble” tone controls are both set to 0 dB.
Off	Do not bypass the DSP circuit and tone control.

■ Parameters for 7ch Stereo

Center Level / Surround L Level / Surround R Level / Surround Back Level / Presence L Level / Presence R Level

Adjustable range: 0 to 100%

Adjusts the volume of the center, surround L/R, surround back and presence L/R channels in the 7ch Stereo program. The available parameters differ depending on the setting of the speakers.

■ Parameter for Straight Enhancer and 7ch Enhancer

Effect Level

Choices: High*, Low

Adjusts the Compressed Music Enhancer effect level. When the high-frequency signals of the source is emphasized too much, set the effect level to "Low". To reduce the effect, set this parameter to "Low".

Decoder parameters

You can customize decoder effects by setting the following parameters. For details about the types of decoders, see "Surround decode mode" (page 27).

■ Parameter for PLIIx Music and PLII Music

Panorama

Choices: Off*, On

Adjusts the soundscape of the front sound field. Sends stereo signals to the surround speakers as well as the front speakers for a wraparound effect.

Dimension

Adjustable range: –3 to STD* to +3

Adjusts the difference in level between the front sound field and the surround sound field. You can adjust the difference in level created by the software being played back to obtain the preferred sound balance. The surround sound gets stronger as you make the value more negative and the front sound gets stronger as you make the value more positive.

Center Width

Adjustable range: 0 to 3* to 7

You can spread the center sound toward left and right according to your preference. Set this parameter to 0 for outputting the center sound from the center speaker only, or to 7 for outputting it from the front left/right speaker.

■ Parameter for Neo:6 Music

Center Image

Adjustable range: 0.0 to 0.3* to 1.0

Adjusts the front left and right channel output relative to the center channel to make the center channel more or less dominant as necessary.

Operating various settings for this unit (Setup menu)

You can call the Setup menu using the remote control and change the settings of various menus.
For details, read "Basic operation of the Setup menu" first, and see the respective pages.

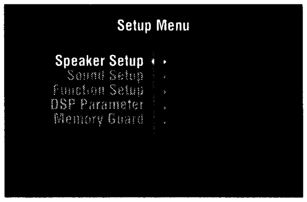
Menu/Submenu	Function	Page
Speaker Setup	Sets items for speakers.	55
Auto Setup (YPAO)	Automatically adjusts output characteristics of speakers.	55
Manual Setup	Manually adjusts output characteristics of speakers.	55
Speaker Configuration	Sets speaker configurations, such as connection status of speaker and a size of the connected speaker (sound reproduction capacity), suitable for the listening environment.	55
Speaker Level	Separately adjusts volume of each speaker.	57
Speaker Distance	Adjusts timing at which each speaker outputs sound based on distances between speakers and the listening position.	57
Equalizer	Selects an equalizer that adjusts speaker output characteristics.	57
Test Tone	Generates test tones.	57
Sound Setup	Sets various items for sound outputs.	57
Dynamic Range	Adjusts dynamic ranges of speakers and headphones.	57
Lipsync	Adjusts delay in output timing between video signals and audio signals.	58
HDMI Auto Lipsync	Sets on or off of automatic adjustments for delay between output timing between video signals input from the HDMI jack and audio signals.	58
Auto Delay	Fine adjusts a delay time of HDMI Auto.	58
Manual Delay	Manually fine adjusts the delay of audio and visual output.	58
Function Setup	Sets various items for HDMI and display.	58
HDMI	Sets various items for input sources.	58
HDMI Control	Selects on or off of the HDMI control function when a component that supports the HDMI control function is connected with this unit.	58
Standby Through	Selects on or off of output of HDMI signals input from the HDMI 1-4 jacks to the HDMI OUT jack when this unit is on standby.	58
Audio Output	Selects this unit or a component connected to the HDMI OUT jack of this unit for reproducing sound signals.	58
Resolution	Sets resolution of the HDMI output that is converted from analogy visual input signals.	58
Aspect	Set an aspect ratio of images reproduced by HDMI signals converted from analog video input signals.	59
Display	Sets items for a video monitor or the front panel display.	59
Dimmer	Sets brightness of the front panel display.	59
Front Panel Display Scroll	Selects the way to display characters on the front panel display.	59
GUI Position	Adjusts top and bottom positions of the GUI screen displayed on the video monitor.	59
Volume	Sets items for volumes.	59
Adaptive DRC	Adjusts the dynamic range (difference between the maximum volume and the minimum volume) in conjunction with the volume level.	59
Max Volume	Sets the maximum volume level so that the volume will not be accidentally increased.	59
Initial Volume	Sets the volume at the time this unit is turned on.	59
Input Rename	Changes input source names to be displayed on the GUI screen or the front panel display.	60
Zone2	Sets the maximum volume level and initial volume level of Zone2.	60
Zone2 Max Volume	Sets the maximum volume level so that the volume will not be accidentally increased.	60
Zone2 Initial Volume	Sets the volume at the time this unit is turned on.	60

Menu/Submenu	Function	Page
DSP Parameter	Sets parameters for the sound field programs.	60
Memory Guard	Protects some settings against accidental alteration.	60

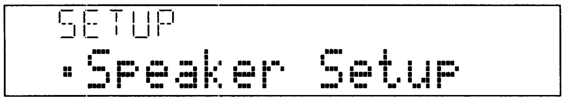
Basic operation of the Setup menu

The Setup menu screen appears on both the GUI screen and front panel display.

GUI screen



Front panel display



In this section, procedures of setting menus using the video monitor are described.

1 Press ⑨ON SCREEN on the remote control.

The GUI screen appears on the video monitor.

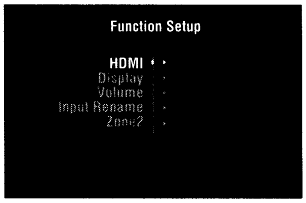
2 Press ⑩Cursor ▽ to select "Setup" and then press ⑩ENTER.

The Setup menu appears on the video monitor.

3 Press ⑩Cursor △ / ▽ to select the desired menu then press ⑩ENTER.

Items of the selected menu are displayed.

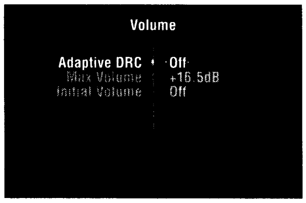
Example (Function Setup)



- To return to the previous menu, press ⑩**RETURN**.

4 If necessary, press ⑩Cursor △ / ▽ to select the desired submenu then press ⑩ENTER.

Example (Volume)

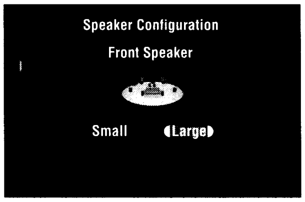


Adaptive DRC Off
Max Volume +16.5dB
Initial Volume Off

5 Press ⑩Cursor △ / ▽ to select an item to edit and then press ⑩Cursor ◁ / ▷ to change the setting.

Some items in "Manual Setup" of "Speaker Setup" take up a full screen. To display other items in "Manual Setup", press ⑩**Cursor** △ / ▽.

Example (Speaker Configuration)



- To configure other items, repeat step 5.

6 To turn off the GUI screen, press ⑨ON SCREEN.

Note

- In case ⑩**Cursor** △ / ▽ / ◁ / ▷ or other keys do not work after closing the Option menu, press ④**Input selection key** to select the current input source again.

Speaker Setup

You can set various items for speakers. Two kinds of adjustments are available. One is "Auto Setup" (YPAO) for automatic adjustment and another is "Manual Setup" for manual adjustment.

- The default settings are marked with "*".

Auto Setup

Automatically adjusts output characteristics of speakers to obtain optimum balance for the output sound based on positions and performances of the speakers and acoustic characteristics or the room, which are automatically measured. For details on operations, see page 19.

Manual Setup

Adjusts output characteristics of speakers based on manually set parameters.

After "Auto Setup" (YPAO) is performed, you can check automatically adjusted parameters in the "Manual Setup" menu. Fine adjust the parameters for your preference if necessary.

■ Speaker Configuration

Sets speaker configurations, such as connection status of speaker and a size of the connected speaker (sound reproduction capacity), suitable for the listening environment.

- The speaker configuration includes items for defining a speaker size: "Large" or "Small". "Large" and "Small" refer to speakers with woofer diameters 16 cm or larger and smaller than 16 cm, respectively.

Extra Speaker Assignment

Choices: Zone2*, Presence, None

Selects the application for the EXTRA SP terminals.

Zone2	Assigns the EXTRA SP terminals for the speakers in the second zone.
Presence	Assigns the EXTRA SP terminals for the presence speakers.
None	Disables the EXTRA SP terminals.

Note

- When setting "Extra SP Assign" to "Zone2" or "Presence", the surround back channel signals for main output is separately output from other channels.

LFE / Bass Out

Choices: Subwoofer, Front, Both*

Selects speaker(s) for outputting low-frequency components of the LFE (low-frequency effect sound) channel or other channels. The output status is as follows.

LFE channel signals

Parameter	Subwoofer	Front speakers	Other speakers
Subwoofer	Output	Not output	Not output
Front	Not output	Output	Not output
Both	Output	Not output	Not output

Low-frequency components of other channel signals

Parameter	Subwoofer	Front speakers	Other speakers
Subwoofer	[1]	[2]	[2]
Front	Not output	[3]	[2]
Both	[3]	[4]	[2]

[1] Outputs low-frequency components of the channel of speaker, the size of which is set to "Small".
[2] Outputs low-frequency components when the sizes of speakers are set to "Large".
[3] Outputs low-frequency components of the front left and right channels and the channel of speaker, the size of which is set to "Small".
[4] Outputs low-frequency components of the front left and right channels.

Front Speaker

Choices: Small, Large*

Sets the sizes of front left and right speakers.

Small	Select this when small speakers are connected. Low-frequency components of the front left and right channels are output from a subwoofer.
Large	Select this when large speakers are connected.

Note

- If "LFE / Bass Out" is set to "Front", "Front Speaker" automatically switches to "Large" even when it is set to "Small".

Center Speaker

Choices: None, Small*, Large

Sets the size of center speaker.

None	Select this when no center speaker is connected. Center channel signals are spread to front left and right speakers.
Small	Select this when a small center speaker is connected. Low-frequency components of center channel are output from a subwoofer. If a subwoofer is not connected they are output from front speakers.
Large	Select this when a large center speaker is connected.

Surround Speaker

Choices: None, Small*, Large

Sets sizes of left and right surround speakers.

None	Select this when no surround speakers are connected. Surround channel signals are spread to front left and right speakers. "Surround Back Speaker" automatically switches to "None" when this is selected.
Small	Select this when small surround speakers are connected. Low-frequency components of surround channels are output from a subwoofer. If a subwoofer is not connected they are output from front speakers.
Large	Select this when large surround speakers are connected.

- When "None" is selected, the sound field programs automatically enter the Virtual CINEMA DSP mode.

Surround Back Speaker

Choices: None, Large x 1, Small x 1, Large x 2, Small x 2*

Sets sizes of left and right surround back speakers.

None	Select this when no surround back speaker are connected. Surround back channel signals are output from the surround L/R speakers and subwoofer. If the subwoofer is disabled, they are output from the surround L/R speakers and front speakers.
Large x 1	Select this when one large surround back speaker is connected.
Small x 1	Select this when one small surround back speaker is connected.
Large x 2	Select this when two large surround back speakers are connected.
Small x 2	Select this when two small surround back speakers are connected.

- When "Surround Back Speaker" is set to "None", "PLIIx Movie", "PLIIx Music" and "PLIIx Game" of the surround decode mode (page 27) are not available.

Bass Crossover Frequency

Choices: 40Hz, 60Hz, 80Hz*, 90Hz, 100Hz, 110Hz, 120Hz, 160Hz, 200Hz

Sets the lower limit of the low-frequency component output from a speaker with a size set to "Small" (Small x 1, Small x 2) Sound with a frequency below that limit is output from a subwoofer or front speakers.
If your subwoofer has a volume control or a crossover frequency control, set the volume to half or the crossover frequency at the maximum.

Subwoofer Phase

Choices: Normal*, Reverse

Sets the phase of your subwoofer if bass sounds are lacking or unclear.

Normal	Select this not to change the phase of your subwoofer.
Reverse	Select this to reverse the phase of your subwoofer.

■ Speaker Level

Adjustable range: –10.0dB to +10.0dB (0.5dB step)
Defaults: 0dB (FR.L, FR.R, SWFR, PR.L, PR.R)
–1.0dB (CNTR, SUR.L, SUR.R, SBL, SBR)

Separately adjusts volume of each speaker so that the sounds form speakers are at the same volume at the listening position. Items to be displayed vary depending on the number of speakers connected.

- When only one surround back speaker is connected, "SB" appears instead of "SBL" and "SBR".
- You can adjust the volume listening to test tones when you set "Test Tone" to "On" (on this page).
- If your subwoofer has a volume control or a crossover frequency control, set the volume to half or the crossover frequency at the maximum.

■ Speaker Distance

Adjusts timing at which each speaker outputs sound so that sounds from speakers reach the listening position at the same time. Set unit (Unit) first and set the distance of each speaker.

Unit

Choices: feet (ft)*, meters (m)

feet (ft)	Displays the speaker distance in feet.
meters (m)	Displays the speaker distance in meters.

FR.L / FR.R / CNTR / SUR.L / SUR.R / SBL / SBR / SWFR / PR.L / PR.R

Adjustable range: 0.30m to 24.00m (1.0ft to 80.0ft)
Defaults: 3.00m (10.0ft) (FR.L, FR.R, SWFR, PR.L, PR.R)
2.60m (8.5ft) (CNTR)
2.40m (8.0ft) (SUR.L, SUR.R, SBL, SBR)

- Available items differ depending on the "Speaker Configuration" settings (page 55).
- When only one surround back speaker is connected, "SB" appears instead of "SBL" and "SBR".

■ Equalizer

Adjusts sound quality and tone using a parametric graphic equalizer.

EQ Type Select

Choices: Auto PEQ, GEQ*, Off

Selects an equalizer type.

Auto PEQ	Uses a parametric equalizer selected in "Auto Setup". Characteristics of the currently used parametric equalizer are displayed below "Auto PEQ".
GEQ	Uses a graphic equalizer. Press [10]**ENTER** to adjust the characteristics of the graphic equalizer.
Off	Not use a graphic equalizer.

GEQ

Channels Front Left, Front Right, Center, Surround Left, Surround Right, Surround Back Left, Surround Back Right
Choices: 63Hz, 160Hz, 400Hz, 1kHz, 2.5kHz, 6.3kHz, 16kHz
Adjustable range: –6.0dB to 0dB* to +6.0dB (0.5dB step)

Adjusts sound quality of each speaker using a graphic equalizer. The graphic equalizer of this unit can adjust signal levels in 7 frequency ranges.
To adjust the signal level within each range, press [10]**Cursor** ◁ / ▷ to select the desired speaker while "Channel" is selected, press [10]**Cursor** △ / ▽ to select the desired frequency band and then press [10]**Cursor** ◁ / ▷ to adjust the signal level.

■ Test Tone

Choices: Off*, On

Switches between on and off of an oscillator that generates test tones. When "On" is selected, you can adjust the settings of "Manual Setup" while listening to a test tone.

Off	Not generate test tones.
On	Generates test tones.

Sound Setup

You can set various items for sound outputs.

■ Dynamic Range

Choices: Min/Auto, STD, Max*

Selects the dynamic range adjustment method for reproducing bitstream signals.

Min/Auto	(Min) Sets the dynamic range suitable for low volume or a quiet environment, such as at night, for bitstream signals except for Dolby TrueHD signals. (Auto) Adjusts the dynamic range for Dolby TrueHD signals based on input signal information.
STD	Sets the standard dynamic range recommended for regular home use.

Max	Outputs sound without adjusting the dynamic range of the input signals.

■ Lipsync

Adjusts delay between video output and audio output.

HDMI Auto Lipsync

Choices: Off*, On

Automatically adjusts output timing of audio and video signals when a TV that supports an automatic lip-sync function is connected to this unit.

Off	Select this when the connected TV does not support the automatic lip-sync function or you do not use the automatic lip-sync function. Set the correction time in "Manual Delay".
On	Select this when the connected TV supports the automatic lip-sync function. Fine adjust the correction time in "Auto Delay".

Auto Delay

Adjustable range: 0* to 240ms (1 ms step)

Fine adjust the correction time when "HDMI Auto Lipsync" is set to "On". The actual correction time is displayed under in "Auto Delay" field and an offset time set by the user in "Offset" field.

Manual Delay

Adjustable range: 0* to 240ms (1 ms step)

Manually fine adjusts the correction time. Select this when the connected TV does not support the automatic lipsync function or you set "HDMI Auto Lipsync" to "Off".

Function Setup

You can set various items for HDMI and display.

HDMI

You can set items for HDMI.

■ HDMI Control

Choices: On, Off*

Selects on or off of the HDMI control function when a component that supports the HDMI control function is connected with this unit. When this parameter is set to "On", this unit output signals input from the HDMI 1-4 jacks to the video monitor even when this unit is on standby.

On	Enables the HDMI control function.
Off	Disables the HDMI control function.

- The Ⓑ**HDMI THROUGH** indicator lights up in the following cases while this unit is on standby.
  - when the HDMI control function is on
  - when the HDMI signal standby-through function is currently working
- When "HDMI Control" is set to "On", this unit consumes 1 to 3 watts of power depending on a condition of an HDMI signal passing through this unit.

■ Standby Through

Choices: On, Off*

Selects on or off of output of HDMI signals input from the HDMI 1-4 jacks to the HDMI OUT jack when this unit is on standby. When this parameter is set to "On", this unit output signals input from the HDMI 1-4 jacks to the video monitor even when this unit is on standby.

On	Outputs the HDMI signals to the HDMI OUT jack.
Off	Not output the HDMI signals to the HDMI OUT jack.

- This parameter is not available when "HDMI Control" is set to "On".
- To enables HDMI signal standby-through output, any one of the input sources connected to the HDMI 1-4 jacks must be selected before switching to standby.
- When "Standby Through" is set to "On", the Ⓑ**HDMI THROUGH** indicator lights up. In this state, this unit consumes up to 3 watts of power even on standby.

■ Audio Output

Choices: Amplifier*, TV, Amplifier + TV

Selects this unit or a component connected to the HDMI OUT jack of this unit for reproducing sound signals input from the HDMI 1-4 jacks.

Amplifier	Outputs HDMI sound signals form the speakers connected to this unit.
TV	Outputs HDMI sound signals from the speakers of a TV connected to this unit. Sound output from the speakers connected to this unit is muted.
Amplifier + TV	Outputs HDMI sound signals from the speakers connected to this unit and the speakers of a TV connected to this unit.

Note

- Signal formats of audio and visual signals output from this unit to the TV vary depending on specifications of the monitor.

- This parameter is not available when "HDMI Control" is set to "On".

■ Resolution

Choices: Through*, 480p, 720p, 1080i, 1080p

Upscales the resolution of HDMI output that is converted from analog video input signals and output from the HDMI OUT jack.

Notes

- Resolution of the HDMI output converted from 720p or 1080i analog video signals cannot be upscaled.
- When a video monitor is connected to the HDMI OUT jack of this unit, this unit automatically detects a resolution that the monitor supports. An asterisk (*) appears on the left of the detected resolution.
- If this unit cannot detect the resolution that the monitor supports, set "MON.CHK" in the advanced setup menu to "SKIP" (page 64) and try again.

■ Aspect

Choices: Through*, 16:9, Smart Zoom

Sets a horizontal to vertical ratio (aspect ratio) of images reproduced by HDMI signals output from the HDMI OUT jack when the HDMI signals are converted from analog video input signals by a video conversion function.

Through	Outputs the video signals without changing the aspect ratio.
16:9	Outputs the video signals that displays 4:3 images on a 16:9 TV with black bands on the right and left sides of the TV screen.
Smart Zoom	Outputs the video signals that displays 4:3 images on a 16:9 TV by stretching right and left of images to fit on the TV screen.

Notes

- You cannot change the aspect ratio of the screen when "Resolution" is set to "Through".
- This setting is not effective for inputs with the aspect ratio other than 4:3.
- You cannot obtain an effect of the aspect ratio when visual signals are input from the HDMI 1-4 jacks or when 720p, 1080i or 1080p signals are input.

Display

You can set items for a video monitor and the front panel display.

Dimmer

Adjustable range: –4 to 0*

Sets brightness of the front panel display. As the value is lowered, the brightness of the front panel display is darkened.

Note

- The brightness of display does not become bright in Pure Direct mode even if the value is increased.

Front Panel Display Scroll

Choices: Continuous*, Once

Selects the way to scroll the screen when a total number of characters exceed a display area of the front panel display.

Continuous	Repeatedly displays all characters by scrolling.
Once	Displays all characters by scrolling once, halts scrolling and then displays first 14 characters.

GUI Position

Adjustable range: –5 to 0* to +5

Adjusts the position of the GUI screen displayed on the video monitor. To move the screen up (or to the right), set this value larger. To move the screen down (or to the left), set this value smaller.

Volume

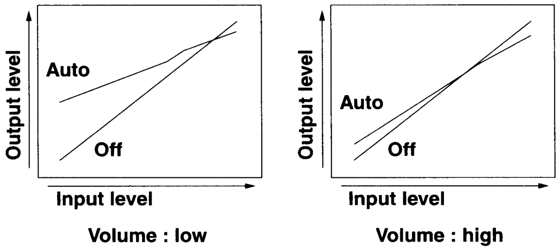
You can set items for volumes.

■ Adaptive DRC

Choices: Auto, Off*

Adjust the dynamic range in conjunction with the volume level. This feature is useful when you are listening at lower volumes or at night. When this function is enabled, the dynamic range is adjusted as follows.

When the volume level is low: narrow the dynamic range
When the volume level is high: widen the dynamic range



Volume : low

Volume : high

Auto	Adjusts the dynamic range automatically.
Off	Not adjust the dynamic range automatically.

- This setting is also effective for headphones.

■ Max Volume

Adjustable range: –30.0dB to +15.0dB, +16.5dB* (5.0 dB step)

Sets the maximum volume level so that the volume will not be accidentally increased. For example, you can adjust the volume between –80.0 dB and –5.0 dB (or Mute) when you set this parameter to "–5.0dB". The volume increases to the maximum level when this parameter is set to +16.5 dB (default).

■ Initial Volume

Adjustable range: Off*, Mute, –80.0dB to +16.5dB (0.5 dB step)

Sets the volume at the time this unit is turned on. When this parameter is set to "Off", the volume level used when this unit was set to standby is applied.

Note

- When you set "Max Volume" and "Initial Volume" the setting of "Max Volume" becomes effective. For example, when you set "Max Volume" to "–30.0dB" and "Init. Volume" to "0.0dB", the volume is automatically set to "–30.0dB" at the next time this unit is turned on.

Input Rename

Changes input source names to be displayed on the front panel display.

Selecting a name to be displayed from templates

Press 10 **Cursor** △ / ▽ to select the input source name to edit and then press 10 **Cursor** ◁ / ▷ to select a new name from the following templates.

- Blu-ray
- DVD
- SetTopBox
- Game
- TV
- DVR
- CD
- CD-R
- Satellite
- VCR
- Tape
- MD
- PC
- iPod
- HD DVD
- "blank"

Entering an original name

Press 10 **Cursor** △ / ▽ to select the input source name to edit and then press 10 **ENTER**. Enter up to 9 characters by selecting one character at a time with the following key operations.

10 **Cursor** ◁ / ▷	Selects a character to edit.
10 **Cursor** △ / ▽	Selects a character to enter.
10 **ENTER**	Enters a selected character.

The following characters are available for input.
A to Z, 0 to 9, a to z, symbols (#, *, –, +, etc.) and space

Zone2

Sets the maximum volume level and initial volume level of Zone2.

💡

- These parameters are available only when "Extra Speaker Assignment" is set to "Zone2" (page 56).

■ Zone2 Max Volume

Adjustable range: –30.0dB to +15.0dB, +16.5dB* (5.0 dB step)

Sets the maximum volume level of Zone2, so that the volume will not be accidentally increased. For example, you can adjust the volume between –80.0 dB and –5.0 dB when you set this parameter to "–5.0dB".

■ Zone2 Initial Volume

Adjustable range: Off*, Mute, –80.0dB to +16.5dB (0.5 dB step)

Use this feature to set the volume level of Zone2 when the power of Zone2 unit is turned on. When this parameter is set to "Off", the volume level used at the time when the Zone2 unit was set to standby is applied.

Note

- If you set "Zone2 Max Volume" and "Zone2 Initial Volume", the setting of "Zone2 Max Volume" becomes effective. For example, if you set "Zone2 Max Volume" to "–30.0dB" and "Zone2 Initial Volume" to "0.0dB", the volume is automatically set to "–30.0dB" at the next time the Zone2 unit is turned on.

DSP Parameter

You can set parameters for the sound field programs. For details, see page 50.

Memory Guard

Choices: Off*, On

Protects the Setup menu settings against accidental alteration.

Off	Not protect settings.
On	Protects the Setup menu settings (except for "Decode Type" in "DSP Parameter" and "Memory Guard").

Note

- When this parameter is switched to "On", "🔒" appears at the top left corner of the Setup menu screen.

Using multi-zone configuration

This unit allows you to configure a multi-zone audio system. This feature allows you to set this unit to reproduce separate input sources in the main zone and the second zone (Zone2). You can control this unit from the second zone using the supplied remote control.

Only analog signal can be sent to the second zone. If you want to output sounds to Zone2, connect an external component to the AV5-6, AUDIO1-2 or VIDEO AUX (AUDIO) jacks (by analog connection). For example, if you want to output sound from an HDMI DVD player to the second zone, you must connect the HDMI DVD player to this unit by both HDMI and analog connections.

Connecting Zone2

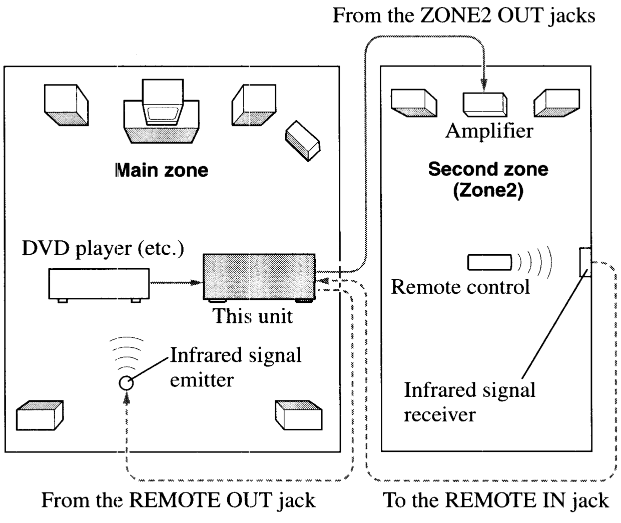
You need the following additional equipment to use the multi-zone functions of this unit:

- An infrared signal receiver in the second zone.
- An infrared signal emitter in the main zone. This emitter transmits infrared signals from the remote control to a CD player or a DVD player, etc. in the main zone via the infrared signal receiver in the second zone.
- An amplifier and speakers in the second zone.

- Since there are many possible ways to connect and use this unit in a multi-zone configuration, we recommend that you consult with your nearest authorized Yamaha dealer or service center about the Zone2 connections that best meet your requirements.
- Some Yamaha models can be directly connected to the REMOTE jacks of this unit. You may not need use an infrared signal emitter for these products. Up to 6 components can be connected using monaural analog mini cables or via an IR flashers. For details about connections, see “Transmitting/receiving remote control signals” (page 17).

Using an external amplifier

Connect an amplifier/receiver in the second zone and other components to this unit as follows.



Note

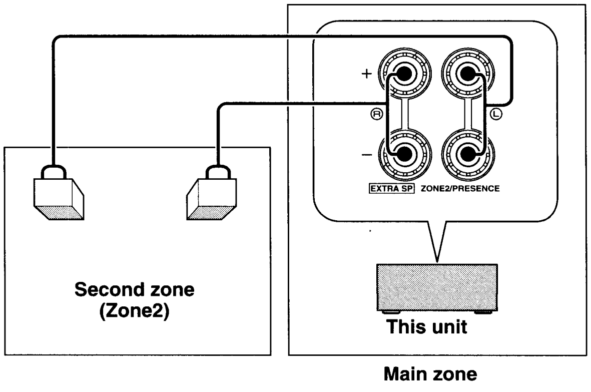
- To avoid unexpected noise, DO NOT USE the Zone2 feature with CDs encoded in DTS.

Using the internal amplifier of this unit

Important safety notice

The EXTRA SP terminals of this unit should not be connected to a Passive Loudspeaker Selector Box or more than one loudspeaker per channel.
Connection to a Passive Loudspeaker Selector Box or multiple speakers per channel could create an abnormally low impedance load resulting in amplifier damage. See this owner’s manual for correct usage. Compliance with minimum speaker impedance information for all channels must be maintained at all times. This information is found on the back panel of your unit.

Connect the speakers in the second zone to the EXTRA SP terminals and then set “Extra Speaker Assignment” to “Zone2” (page 56).



- You can use the speakers connected to EXTRA SP terminals as the front speaker system of another zone.
- When you use the internal amplifiers for the Zone2 speakers, you can adjust the volume level and set the initial volume and maximum volume of the Zone2 speakers (page 60).

Controlling Zone2

You can select and control Zone2 by using the control keys on the front panel or on the remote control. The available operations are as follows:

- Selecting the input source.
- Tuning into the desired station (when "TUNER" is selected as the input source)
- Tuning into the desired channel (when "XM" or "SIRIUS" is selected as the input source) (U.S.A. model only)
- Adjusting the volume of Zone2 (when Zone2 speakers are connected to the EXTRA SP terminals).

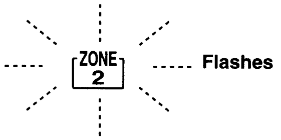
Switching to the Zone2 operation mode

Before controlling Zone2 by using the control keys on the front panel or on the remote control, follow the procedure below to switch this unit to the Zone2 operation mode.

■ To control Zone2 by using the front panel control keys

Press ⒸZONE2 CONTROL while Zone2 is turned on.

The ZONE2 indicator flashes on the front panel display for approximately 10 seconds.



Note

- Complete each step while the ZONE2 indicator is flashing on the front panel display. Otherwise, the Zone2 mode is automatically canceled and this unit returns to the main zone operation mode.

■ To control Zone2 by using the remote control

Switch [2]MAIN/ZONE2 to the "ZONE2" position.

Operations in the Zone2 operation mode

■ Turning on or set Zone2 to standby

Press ⒶZONE2 ON/OFF (or [16]POWER).

■ Operating Zone2

Rotate the ⓇINPUT selector (or press [4]Input selection key) to select the desired input source.

- Select "AV5", "AV6", "AUDIO1", "AUDIO2", "V-AUX" or "PHONO" to listen to the input source in Zone2.
- Select "TUNER" to use the FM/AM radio features (page 29) in Zone2.
- Select "USB" to use the USB features (page 45) in Zone2.
- Select "DOCK" to use the iPod features (page 42) or Bluetooth features (page 44) in Zone2.
- Select "SIRIUS" to use the SIRIUS Satellite Radio features (page 37) in Zone2.
- Select "XM" to use the XM Satellite Radio features (page 33) in Zone2.

Controlling other components with the remote control

You can control external components for a selected input source with the remote control. The keys available for controlling external components are as follows:

[3]SOURCE POWER

Turns on and off an external component.

[10]Cursor, ENTER, RETURN

Operates the menus of external components.

[11]External component operation keys

Function as a recording or playback key of an external component, or a menu display key.

[12]Numeric keys

Function as numeric keys of an external component.

[13]TV control keys

INPUT	Switches visual inputs of TV
MUTE	Mutes audio of TV
TV VOL +/–	Controls the volume of TV
TV CH +/–	Switches channels of TV
POWER	Turns on and off TV

[20]DISPLAY

Switches between the screens of external components.

- You can use [13]**TV control keys** only for controls of TV regardless of selected input sources.
- You need to set the remote control code first to control external components.
- The remote control keys for controlling external components are available only when the external components have corresponding control keys.

The following remote control codes are assigned to input sources as factory default settings. For a complete list of available remote control codes, refer to "List of remote control codes" at the end of this manual.

■ Default remote control code settings

Input source	Category	Manufacturer	Default code
[HDMI 1]	Blu-ray Disc	Yamaha	2018
[HDMI 2]	—	—	—
[HDMI 3]	—	—	—
[HDMI 4]	—	—	—
[AV 1]	—	—	—
[AV 2]	—	—	—
[AV 3]	CD	Yamaha	5013
[AV 4]	—	—	—
[AV 5]	—	—	—
[AV 6]	—	—	—
[AUDIO 1]	—	—	—
[AUDIO 2]	—	—	—
[V-AUX]	—	—	—
[PHONO]	—	—	—
[USB]	—	—	—
[DOCK]	DOCK	Yamaha	5011
[TUNER]	Tuner	Yamaha	5007
[SIRIUS]	Tuner	Yamaha	5017
[XM]	Tuner	Yamaha	5009
[MULTI]	—	—	—

"—" indicates no assignment

- An external component controlled by the remote control is automatically selected according to selection of the scenes (page 22).

Setting remote control codes

You can control other components by setting the appropriate remote control codes. For a complete list of available remote control codes, refer to "List of remote control codes" at the end of this manual.
You should perform each step within 1 minute after the previous step.

1 Press [15]CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.

[14]**TRANSMIT** blinks twice.

2 Press the desired [4]Input selection key.

3 Press [12]Numeric keys to enter a remote control code.

Once the remote control code is registered, [14]**TRANSMIT** blinks twice. If it fails, [14]**TRANSMIT** blinks six times. Repeat from step 1.

Resetting all remote control codes

You can reset all remote control codes to the factory default settings.

1 Press [15]CODE SET on the remote control using a pointed object such as a tip of a ballpoint pen.

[14]**TRANSMIT** blinks twice.

2 Press [9]ON SCREEN.

3 Press [12]Numeric keys to enter "9981".

Once the initialization is complete, [14]**TRANSMIT** blinks twice. If it fails, [14]**TRANSMIT** blinks six times. Repeat from step 1.

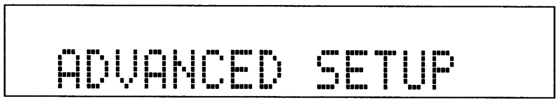
Advanced setup

In the advanced setup menu, you can set basic operations of this unit, such as on and off of a bi-amp connection, or initialize user settings.

1 Set this unit to standby.

2 While holding down ⓞSTRAIGHT on the front panel, press ⓚMAIN ZONE ON/OFF.

Keep holding down **ⓞSTRAIGHT** until "ADVANCED SETUP" appears on the front panel display.


ADVANCED SETUP

3 Rotate the ⓝPROGRAM selector to select the parameter you want to change.

The default setting are marked with "*".

- Set values are placed in XXX of the following parameters on an actual display screen.

SP IMP. -XXX

Choices: 6ΩMIN, 8ΩMIN*

Selects output impedance of this unit according to connected speakers. When you connect 4-ohm speakers to the FRONT speaker terminals, set "SP IMP." to "6ΩMIN.".

REMOTE ID -XXX

Choices: ID1*, ID2

Sets a remote control ID. When using multiple Yamaha AV receivers, you can operate them with a single remote control by setting the receiver IDs to the same setting.

SR PIN -XXX

Choices: RESET, CANCEL*

Resets Parental lock cord when using SIRIUS Satellite tuner.

BI AMP - XXX

Choices: ON, OFF*

Switches on and off of bi-amp connection of main speakers. For bi-amp connection, see page 12.

SCENE IR -XXX

Choices: ON*, OFF

Selects whether or not to transmit the control signals to an external component connected to the REMOTE OUT jack on this unit when BD/DVD or CD SCENE function is selected.

MON.CHK - XXXX

Choices: YES*, SKIP

Adds upscaling limitation on output signals to a video monitor connected to this unit via the HDMI OUT jack.

INIT-XXXXXXXXX

Choices: DSP PARAM, VIDEO, ALL, CANCEL*

Initializes various settings stored in this unit. You can select an initialization method from the following.

DSP PARAM:	All parameters of sound field programs
VIDEO	Video conversion settings (resolution/ aspect) in the Setup menu and the GUI display position
ALL	All
CANCEL	Cancellation of initialization

4 Press ⓞSTRAIGHT repeatedly to change the selected parameter setting.

To change other settings, repeat steps 3 and 4.

5 Press ⓚMAIN ZONE ON/OFF to set this unit to standby.

The settings you made are reflected next time you turn on this unit.

Updating the firmware

You can check the firmware of this unit and update the firmware using the USB port on the front panel.
Select the following parameter in step 3 above.

FIRM UPDATE

Updates the firmware of this unit. To update the firmware, select "FIRM UPDATE" and then press **ⓞSTRAIGHT**.

Notes

- Do not use this feature unless you need to update the firmware.
- Be sure to read information supplied with updates before updating the firmware.

VERXXX.XXX.XXX

Displays the firmware of this unit.

Setting a remote control ID

Two IDs are provided for the remote control of this unit. If another Yamaha amplifier is in the same room, setting a different remote control ID to this unit prevents unwanted operation of the other amplifier.

"ID1" is set for both the main unit and remote control by default. If you have changed the remote control ID, make sure that you select the same ID for the main unit in the the advanced setup menu.

1 Press 15CODE SET on the remote control using a pointed object such as the tip of a ballpoint pen.

14TRANSMIT blinks twice.

2 Press 9ON SCREEN.

3 Enter the desired remote control ID code.

To switch to ID1:
Press 12**Numeric keys** to enter “5019”.
To switch to ID2:
Press 12**Numeric keys** to enter “5020”.
Once the remote control code is registered, 14**TRANSMIT** blinks twice.
If it fails, 14**TRANSMIT** blinks six times. Repeat from step 1.

- If you initialize the settings of this unit, “REMOTE ID” (remote control code of this unit) is set to “ID1”.

APPENDIX

Troubleshooting

Refer to the table below when this unit does not function properly. If the problem you are experiencing is not listed below or if the instruction below does not help, turn off this unit, disconnect the power cable, and contact the nearest authorized Yamaha dealer or service center.

General

Problem	Cause	Remedy	See page
This unit does not operate properly.	The internal microcomputer is frozen due to an external electric shock (such as lightning or excessive static electricity) or by a drop in power supply voltage.	Disconnect the power cable from the AC wall outlet, wait about 30 seconds and then plug it in again.	—
This unit suddenly enters the standby mode	The internal temperature is too high and the overheat protection circuitry has been activated.	Wait about 1 hour for this unit to cool down and then turn it back on.	—
	The protection circuitry has been activated because of a short circuit, etc.	Check that the speaker impedance setting is correct.	64
		Check that the speaker wires are not touching each other and then turn this unit back on.	—
	The sleep timer has turned off this unit.	Turn on this unit and play the source again.	—
This unit fails to turn on or enters the standby mode soon after the power is turned on.	The power cable is not connected or the plug is not completely inserted.	Connect the power cable properly to an AC wall outlet.	18
	The speaker impedance setting is incorrect.	Set the speaker impedance to match your speakers.	64
	(When this unit is turned back on and "CHECK SP WIRES!" is displayed.) The protection circuitry has been activated because this unit was turned on while a speaker cable was shorted.	Make sure that all speaker cables between this unit and speakers are connected properly.	11
This unit cannot be turned off.	The internal microcomputer is frozen due to an external electric shock (such as lightning or excessive static electricity) or by a drop in power supply voltage.	Disconnect the power cable from the AC wall outlet, wait about 30 seconds and then plug it in again.	—
No picture.	An appropriate video input is not selected on the video monitor.	Select an appropriate video input on the video monitor.	—
	The external video component is connected to one of the HDMI 1-4 jacks while your video monitor is connected to the MONITOR OUT (COMPONENT VIDEO or VIDEO) jacks.	Connect the external video component to the video input jacks other than the HDMI 1-4 jacks or connect the video monitor to the HDMI OUT jack.	14, 15
	This unit outputs the video signals not supported by the video monitor connected to the HDMI OUT jack.	Displays the advanced setup menu and select "VIDEO" in "INIT" to reset the video parameters.	64
		Displays the advanced setup menu and set "MON.CHK" to "YES".	64
	Video signals are input from a game console while your video monitor is connected to the HDMI OUT jack.	Connect the video monitor to the MONITOR OUT (COMPONENT VIDEO) jacks.	14
	Non-standard video signals are input.	Connect the video monitor to the MONITOR OUT (COMPONENT VIDEO or VIDEO) jacks.	14

Problem	Cause	Remedy	See page
The picture is disturbed.	The video software is copy-protected.		
No sound.	Incorrect input or output cable connections.	Connect the cables properly. If the problem persists, the cables may be defective.	15
	No appropriate input source has been selected.	Rotate the Ⓡ**INPUT** selector (or press 4**Input selection key**) to select the desired input source.	22
	Speaker connections are not secure.	Secure the connections.	11
	The volume is turned down or muted.	Turn up the volume.	22
	Signals this unit cannot reproduce are being input from a source component, such as a CD-ROM.	Display “Signal Info” in the Option menu and check the input signal format. If “No Signal” is displayed, check if the playback component is properly connected to this unit (or a proper input source is selected). If “___” is displayed, the input signal in that format cannot be reproduced by this unit.	—
	The HDMI components connected to this unit do not support the HDCP copy protection standards.	Connect HDMI components that support the HDCP copy protection standards.	81
	“Audio Output” in “HDMI” is set to “TV”.	Set “Audio Output” (Function Setup → HDMI → Audio Output) to the other setting.	58
	A proper audio decoder is not selected.	Display the Option menu and set “Decoder Mode” to “Auto”.	47
Only the center speaker outputs substantial sound.	When a monaural source sound field program is applied, sound of all channels are output from the center speaker for some surround decoders.	Try another sound field program.	25
	The playback component or speakers are not connected properly.	Connect the cables properly. If the problem persists, the cables may be defective.	12, 15
No sound is output from a specific speaker.	Output from that speaker is disabled.	Check the Speaker indicators on the front panel display. If the corresponding indicator is turned off, try the following. 1) Change the input source to another one. 2) With the selected sound field program, sound is not output from that speaker. Select another sound field program. 3) “None” may have been selected for that speaker on this unit. Display “Speaker Setup” in the “Setup” menu and enables output of that speaker.	6, 22, 25, 55
	The volume of that speaker is set to minimum in “Speaker Setup” in the “Setup” menu.	Display “Speaker Setup” in the “Setup” menu and adjust the volume (Manual Setup → Speaker Level).	57
	This unit is in the straight decode mode.	Press Ⓞ**STRAIGHT** (or 7**STRAIGHT**) to turn off the straight decode mode.	28
	Sound may not be output from certain channels depending on input sources or sound field programs.	Try another sound field program.	25
	The speaker is malfunction.	Check the speaker indicators on the front panel display. If the corresponding indicator lights up, connect another speaker and check if sound is output. If sound is not output, this unit may be malfunction.	—

Problem	Cause	Remedy	See page
No sound is heard from the subwoofer.	"LFE / Bass Out" is set to "Front" and a Dolby Digital, DTS or AAC signals is being played.	Set "LFE / Bass Out" to "Subwoofer" or "Both".	56
	"LFE / Bass Out" is set to "Subwoofer" or "Front" and a 2-channel source is being played.	Set "LFE / Bass Out" to "Both".	56
	The source does not contain low frequency signals.		
No sound is heard from the surround back speakers.	"Extended Surround" in the Option menu is set to "Off", or an input signal does not contain a surround back flag with "Extended Surround" set to "Auto".	Set "Extended Surround" other than "Off" or "Auto".	48
The audio input sources cannot be played in the desired digital audio signal format.	The connected component is not set to output the desired digital audio signals.	Set the playback component properly referring to its operating instructions.	—
Noise/hum noise is heard.	Incorrect cable connection.	Connect the audio cables properly. If the problem persists, the cables may be defective.	—
	A DTS-CD is being played back.	1) When only noise is output If a DTS bitstream signal is not properly input to this unit, only noise is output. Connect the playback component to this unit by digital connection and play back the DTS-CD. If the condition is not improved, the problem may results from the playback component. Consult the manufacturer of the playback component. 2) When noise is output during playback or skip operation Before playing back the DTS-CD, display the Option menu after selecting the input source and set "Decoder Mode" to "DTS".	15, 48
The volume level cannot be increased, or the sound is distorted.	The component connected to the AUDIO 1/2 jacks of this unit is turned off.	Turn on the power of the component.	63
"Memory Guard!" is displayed and the setting cannot be changed.	"Memory Guard" in "Set Menu" is set to "On".	Set "Memory Guard" to "Off".	60
There is noise interference from digital or radio frequency equipment.	This unit is too close to other digital or radio frequency equipment.	Move this unit further away from such equipment.	—

HDMI™

Problem	Cause	Remedy	See page
No picture or sound.	The number of the connected HDMI components is over the limit.	Disconnect some of the HDMI components.	—
	The connected HDMI component does not support high-bandwidth digital copyright protection (HDCP).	Connect an HDMI component that supports HDCP.	81

Tuner (FM/AM)

	Problem	Cause	Remedy	See page
FM	**FM stereo reception is noisy.**	You are too far from the station transmitter or the input from the antenna is weak.	Check the antenna connections.	18
			Replace the outdoor antenna with a more sensitive multi-element antenna.	—
			Switch to monaural mode.	48
	There is distortion, and clear reception cannot be obtained even with a good FM antenna.	There is multi-path interference.	Adjust the antenna height or orientation, or place it in a different location.	—
	The desired station cannot be tuned into with the automatic tuning method.	You are in an area far from a station or an input from the antenna is weak.	Replace an outdoor antenna with more sensitive multi element antenna.	—
			Tune in manually or by direct frequency tuning.	29
AM	**The desired station cannot be tuned into with the automatic tuning method.**	The signal is weak or the antenna connections are loose.	Adjust the AM loop antenna orientation.	18
			Use the manual tuning method.	29
	There are continuous crackling and hissing noises.	Supplied AM loop antenna is not connected.	Connect the AM loop antenna correctly even if you use an outdoor antenna.	18
		The noises may be caused by lightning, fluorescent lamps, motors, thermostats and other electrical equipment.	It is difficult to completely eliminate noise, but it can be reduced by installing and properly grounding an outdoor AM antenna.	18
	There are buzzing and whining noises.	A TV set is being used nearby.	Move this unit away from the TV set.	—

HD Radio™ Reception (U.S.A. model only)

Problem	Cause	Remedy	See page
This unit cannot receive the HD Radio signals of the selected radio station.	The radio station provides analog FM/AM radio service only.	Select other radio stations that provides the HD Radio service.	31
	The signal is too weak.	Adjust the antenna position.	—
		Use a high-quality FM/AM antenna.	—
	"Audio Mode" in the Option menu is set to "Mono".	Set "Audio Mode" to "Auto".	48

Problem	Cause	Remedy	See page
This unit cannot select other audio programs than the main program.	The radio station provides one audio program only.		
HD Radio information does not appear.	The radio station does not provide the information.		

iTunes Tagging (U.S.A. model only)

Problem	Cause	Remedy	See page
Tag data cannot be transferred to your iPod when it is station in the Yamaha iPod universal dock (YDS-10).	"YDS-10" does not support tag file transfer.	Use "YDS-11" to transfer tag data from this unit to your iPod.	—

Status message	Cause	Remedy	See page
Insufficient Data	Tag data is not saved because of invalid data.	The selected HR Radio program (or song being played) does not support the iTunes Tagging feature.	—
Tag Already Stored	Tag data for the same content has been already saved.		
Tag Storage full	Tag data cannot be stored because the internal memory of this unit is full.	Station your iPod in the Yamaha iPod universal dock (YDS-11) connected to the DOCK terminal of this unit.	—
iPod full **Tags cannot be stored**	Tag data cannot be stored on your iPod because the HDD space of your iPod is full.	Delete unnecessary data from your iPod to make room and try again.	—
Transferring Failed	Tag data cannot be transferred to your iPod.	Check if the iPod is stationed in the Yamaha iPod universal dock (YDS-11) properly.	—
Storing Tag	Tag data is being stored in the internal memory of this unit.		
Transferring	Tag data is being transferred to your iPod.		
Tag(s)Sent	Tag data has been transferred to your iPod.		

XM Satellite Radio (U.S.A. model only)

If an operation takes longer than usual or an error occurs, one of the following messages may appear on the GUI screen. In this case, read the cause and follow the corresponding remedies.

Status message	Cause	Remedy	See page
CHECK XM TUNER	The XM Mini-Tuner is not installed in the XM Mini-Tuner Home Dock or the XM Mini-Tuner Home Dock is not connected to this unit.	Confirm the XM Mini-Tuner is fully seated in the dock and check the XM Mini-Tuner Home Dock cable is connected to this unit.	33

Status message	Cause	Remedy	See page
CHECK ANTENNA	The XM antenna is not connected to the XM Mini-Tuner Home Dock or the XM antenna cable has become damaged.	Check that the XM antenna is securely connected to the XM Mini-Tuner Home Dock and check the antenna cable for damage. Replace the XM antenna if the cable is damaged.	33
LOADING XM	The XM Mini-Tuner is acquiring audio or program information from the XM satellite signal. This message can also occur in weak XM signal conditions. Note that this unit may not respond to some operations while this message is displayed.	This message should disappear in a few seconds in good signal conditions. If you see this message often, reposition the XM antenna to get better signal reception. Use the "Antenna" information on the front panel display or XM information on the GUI screen to check the antenna reception level.	36
NO SIGNAL	The XM Mini-Tuner is not receiving the XM satellite signal. Something may be blocking the XM antenna's view of the satellites or the antenna is not properly aimed.	Check for antenna obstructions and reposition the XM antenna to get better signal reception. Use the "Antenna" information on the front panel display or XM information on the GUI screen to check the antenna reception level. See instructions supplied with the XM Mini-Tuner and Dock for antenna installation information.	36
CHANNEL OFF AIR	The XM channel you selected is not currently broadcasting.	Check back at a later time; in the meantime, select another channel.	—
CHANNEL NOT AUTHORIZED	You may be attempting to tune to an XM channel that is blocked or that you cannot receive with your XM subscription package.	Consult the latest channel guide at http://www.xmradio.com/ for the current list of channels. For information on receiving this channel, visit http://www.xmradio.com/ or contact XM Satellite Radio at 1-800-967-2346.	—
CHANNEL NOT AVAILABLE	The selected channel is not available. The channel may have been reassigned to a different channel number. This message may occur initially with a new XM Mini-Tuner or an XM Mini-Tuner that has not received XM's signal for an extended period.	Consult the latest channel guide at http://www.xmradio.com/ for the current list of channels. For cases of a new XM Mini-Tuner or an XM Mini-Tuner that has not received XM's signal for an extended period, allow the XM Mini-Tuner to receive the XM satellite signal for at least 5 minutes and then try to select the channel again.	—
UPGRADE XM TUNER	This unit has detected a XM CNP1000 which is not compatible with this unit.	If you have connected the XM Mini-Tuner (CNP2000) and see this message, set this unit to standby, disconnect and reconnect the XM Mini-Tuner Home Dock and re-install the Mini-Tuner in the Home Dock and turn on this unit. If you continue to see this message with the XM Mini-Tuner, contact XM Satellite Radio at http://xmradio.com/ or 1-800-XMRADIO (1-800-967-2346). If you have an incompatible XM CNP1000, contact XM for information on upgrading to the XM Mini-Tuner.	—
- - - -	No artist name or song title is available for this selection.	No action required.	—

SIRIUS Satellite Radio (U.S.A. model only)

If an operation takes longer than usual or an error occurs, one of the following messages may appear on the GUI screen. In this case, read the cause and follow the corresponding remedies.

Status message	Cause	Remedy	See page
ANTENNA ERROR	The antenna is not connected to the SiriusConnect tuner properly.	Check the connection of the antenna and SiriusConnect tuner.	37
SIRIUS LOADING	This unit is communicating with the SiriusConnect tuner.	The message disappears normally within several tens of seconds.	—
CHECK SIRIUS TUNER	The SiriusConnect tuner is not connected to the SIRIUS jack of this unit correctly.	Check the connection of the SiriusConnect tuner and this unit.	37
	The SiriusConnect tuner is not connected to the AC wall outlet.	Connect the power cable of the SiriusConnect tuner to the AC wall outlet.	37
NOT SUPPORTED	This unit does not support the connected SIRIUS Satellite Radio tuner.	Connect the SiriusConnect tuner that this unit supports,	37
ACQUIRING SIGNAL	The signal is too weak.	Adjust the orientation of the antenna of the SiriusConnect tuner. Use the "Antenna" information on the front panel display or SIRIUS information on the GUI screen to check the antenna reception level.	41
UPDATING	The SiriusConnect tuner is updating the channel list.	Wait until the updating is complete.	—
	The period of the subscription is end.	Contact SIRIUS Satellite Radio to renew the subscription.	37
F/W UPDATING	The SiriusConnect tuner is updating the firmware.	Wait until the updating is complete.	—
CALL 888-539-SIRIUS TO SUBSCRIBE	The selected channel is not subscribed.	Contact SIRIUS Satellite Radio to subscribe the selected channel. URL: https://activate.siriusradio.com/ Phone: 1-888-539-SIRIUS (1-888-539-7474)	37
		Select another channel.	37
SUBSCRIPTION UPDATED	The subscription information is updated.		
INVALID CHANNEL	The selected channel is currently out of service.	Select another channel.	37
Not Available	The operation you made is not available.		

Remote control

Problem	Cause	Remedy	See page
The remote control does not work or function properly.	Wrong distance or angle.	The remote control will function within a maximum range of 6 m (20 ft) and no more than 30 degrees offaxis from the front panel.	9
	Direct sunlight or lighting (from an inverter type of fluorescent lamp, strobe light, etc.) is striking the remote control sensor of this unit.	Adjust the lighting angle or reposition this unit.	—
	The batteries are weak.	Replace all batteries.	9
	The remote control ID of the remote control and this unit do not match.	Match the remote control ID of this unit and the remote control.	64
	The remote control code is not correctly set.	Set the remote control code correctly using "List of remote control codes" at the end of this manual.	63
		Try setting another code of the same manufacturer using "List of remote control codes" at the end of this manual.	63
		If this unit does not work when you press ⑩**Cursor**, do the following. When the key does not work during DVD disc menu operation: press the ④**Input selection keys** on the remote control again. When the key does not work during Option menu or Setup menu operation: press the key applicable for the current menu operation again.	—
	Even if the remote control code is correctly set, there are some models that do not respond to the remote control.		

iPod™

Note

- In case of a transmission error without a status message appearing on the front panel display and GUI screen, check the connection of your iPod (page 17).

Status message	Cause	Remedy	See page
Loading...	This unit is in the middle of recognizing the connection with your iPod.		
	This unit is in the middle of acquiring song lists from your iPod.		
Connect error	There is a problem with the signal path from your iPod to this unit.	Turn off this unit and reconnect the Yamaha iPod universal dock to the DOCK terminal of this unit.	17
		Remove your iPod in the Yamaha iPod universal dock and then place it back in the dock.	42
Unknown iPod	The iPod being used is not supported by this unit.	Use an iPod supported by this unit.	—
iPod Connected	Your iPod is properly placed in the Yamaha iPod universal dock.		

Status message	Cause	Remedy	See page
Disconnected	Your iPod is removed from the Yamaha iPod universal dock.		42
Unable to play	This unit cannot play back the songs currently stored on your iPod.	Check that the songs currently stored on your iPod are playable.	—

Bluetooth™

Status message	Cause	Remedy	See page
Searching...	The Bluetooth wireless audio receiver and the Bluetooth component are in the middle of the pairing.		
	The Bluetooth wireless audio receiver and the Bluetooth component are in the middle of establishing the connection.		
Completed	The pairing is completed.		
Canceled	The pairing is canceled.		
BT Connected	The connection between the Yamaha Bluetooth wireless audio receiver and the Bluetooth component is established.		
Disconnected	The Bluetooth component is disconnected from the Yamaha Bluetooth wireless audio receiver.		
Not Found	No Bluetooth components are found during a pairing process.	Pairing must be performed on the both this unit and your Bluetooth component at the same time. Check whether your Bluetooth component is set to the paring mode and then try again.	44
	No Bluetooth components are found during a Bluetooth connection.	Check whether your Bluetooth component is turned on and then try again.	44
		Locate your Bluetooth component within 10 meters (33 feet) of this unit and then try again.	44

USB

Problem	Cause	Remedy	See page
The music files and folder cannot be browsed.	The music files and folders are stored the locations other than the FAT area.	Place the music files and folders in the FAT area.	—
	You are attempting to browse directory hierarchies of over 8 levels or a directory with more than 500 files.	Modify the data structure on your USB storage device.	—
	This unit cannot recognize some characters used in the file name or folder name.	Edit the file name or folder name using a PC and then try again.	—
The USB storage device cannot be recognized.	The USB storage device is not compatible with mass storage class (except USB HDDs).	Use a USB storage device that is compatible with mass storage class (except USB HDDs).	—
	This unit does not recognize the USB storage device properly.	Turn this unit off and then turn on again.	18

Status message	Cause	Remedy	See page
USB Connected	Your USB storage device is connected.		—
Disconnected	Your USB storage device has been disconnected from the USB port of this unit.	Check the connection between this unit and your USB storage device.	—
	This unit recognizes the USB storage device as an illegal device.	Turn this unit off and then turn on again.	18
Access Error	This unit cannot access your USB storage device.	Try another USB storage device.	—
	There is a problem with the signal path from your USB storage device to this unit.	Turn off this unit and reconnect your USB storage device to the USB port of this unit.	17, 18
		Try resetting your USB storage device.	—
Unable to play	The data is invalid.	Try another USB storage device.	—

Auto Setup (YPAO)

Notes

- If the an error or warning message appears, resolve the problem and then run “Auto Setup” again.
- Warning message “W-2” or “W-3” indicates that the adjusted settings may not be optimal.
- Depending on the speakers, warning message “W-1” may appears even if the speaker connections are correct.
- If error message “E-10” occurs repeatedly, contact a qualified Yamaha service center.

Before Auto Setup

Error message	Cause	Remedy	See page
Connect MIC!	Optimizer microphone is not connected.	Connect the supplied optimizer microphone to the OPTIMIZER MIC jack on the front panel.	19
Unplug HP!	Headphones are connected.	Unplug the headphones.	—
Memory Guard!	The parameters of this unit are protected.	Set “Memory Guard” to “Off”.	60

During Auto Setup

Error message	Cause	Remedy	See page
E-1:NO FRONT SP	Front L/R channel signals are not detected.	Check the front L/R speaker connections.	11
E-2:NO SUR. SP	Only a signal from one of the surround channels are detected.	Check the surround L/R speaker connections.	11
E-3:NO PRNS SP	Only signals from one of the presence L/R channels are detected.	Check the presence L/R speaker connections.	11
E-4:SBR->SBL	Only right surround back channel signal is detected.	If you connect only one surround back speaker, connect it to the left SUR.BACK (SINGLE) jack.	11
E-5:NOISY	Measurement cannot be performed accurately due to loud ambient noise.	Try running “Auto Setup” in a quiet environment.	—
		Turn off noisy electric equipment like air conditioners or move them away from the optimizer microphone.	—
E-6:CHECK SUR.	Surround back speakers are connected, though surround L/R speakers are not.	When using surround back speakers, you need to connect surround L/R speakers.	11

Error message	Cause	Remedy	See page
E-7:NO MIC	The optimizer microphone was unplugged during the "Auto Setup" procedure.	Do not touch the optimizer microphone during "Auto Setup".	19
E-8:NO SIGNAL	The optimizer microphone does not detect test tones.	Check whether the microphone is properly placed.	19
		Check whether the speakers are properly placed and connected.	10, 11
		The optimizer microphone or OPTIMIZER MIC jack may be defective. Contact the nearest Yamaha dealer or service center.	—
E-9:USER CANCEL	"Auto Setup" was canceled due to an inappropriate user operation.	Run "Auto Setup" again.	19
E-10:INTERNAL ERROR	An internal error occurred.	Run "Auto Setup" again.	19

After Auto Setup

Error message	Cause	Remedy	See page
W-1:OUT OF PHASE	Speaker polarity is not correct. This message may appear depending on the speakers even when the speakers are connected correctly.	Check the polarities (+, –) of the displayed speaker. If they are correct, the speakers work properly even when this message is displayed.	12
W-2:OVER 24m (80ft)	The distance between the speaker and the listening position is over 24 m (80 ft).	Bring the speaker within 24 m (80 ft.) area around the listening position.	—
W-3:LEVEL ERROR	The difference of volume level among speakers is excessive.	Recheck the speaker positions and make sure all speakers are placed in a similar environment.	—
		Check the polarities (+, –) of the speakers.	12
		We recommended that you use speakers with the same or similar specifications.	—
		Adjust the output volume of the subwoofer.	—
W-4:CHECK PRNS	Presence speakers were not detected during measurement with "Extra Speaker Assignment" set to "Presence".	Check the presence speaker connections and perform measurement again. If presence speakers are not connected, set the "Extra Speaker Assignment" to other than "Presence".	11, 56

Glossary

■ Audio and video synchronization (lip sync)

Lip sync, an abbreviation for lip synchronization, is a technical term that involves both a problem and a capability of maintaining audio and video signals synchronized during post-production and transmission. Whereas the audio and video latency requires complex end-user adjustments, HDMI version 1.3 incorporates an automatic audio and video syncing capability that allows devices to perform this synchronization automatically and accurately without user interaction.

■ Bi-amplification connection

A bi-amplification connection uses two amplifiers for a speaker.
One amplifier is connected to the woofer section of a loudspeaker while the other is connected to the combined mid and tweeter section. With this arrangement each amplifier operates over a restricted frequency range. This restricted range presents each amplifier with a much simpler job and each amplifier is less likely to influence the sound in some way.

■ Component video signal

With the component video signal system, the video signal is separated into the Y signal for the luminance and the PB and PR signals for the chrominance. Color can be reproduced more faithfully with this system because each of these signals is independent. The component signal is also called the "color difference signal" because the luminance signal is subtracted from the color signal. A monitor with component input jacks is required in order to output component signals.

■ Composite video signal

With the composite video signal system, the video signal is composed of three basic elements of a video picture: color, brightness and synchronization data. A composite video jack on a video component transmits these three elements combined.

■ Deep Color

Deep Color refers to the use of various color depths in displays, up from the 24-bit depths in previous versions of the HDMI specification. This extra bit depth allows HDTVs and other displays go from millions of colors to billions of colors and eliminate on-screen color banding for smooth tonal transitions and subtle gradations between colors. The increased contrast ratio can represent many times more shades of gray between black and white. Also Deep Color increases the number of available colors within the boundaries defined by the RGB or YCbCr color space.

■ Dolby Digital

Dolby Digital is a digital surround sound system that gives you completely independent multi-channel audio. With 3 front channels (front L/R and center), and 2 surround stereo channels, Dolby Digital provides 5 full-range audio channels. With an additional channel especially for bass effects, called LFE (Low Frequency Effect), the system has a total of 5.1-channels (LFE is counted as 0.1 channel). By using 2-channel stereo for the surround speakers, more accurate moving sound effects and surround sound environment are possible than with Dolby Surround. The wide dynamic range from maximum to minimum volume reproduced by the 5 full-range channels and the precise sound orientation generated using digital sound processing provide listeners with unprecedented excitement and realism.
With this unit, any sound environment from monaural up to a 5.1-channel configuration can be freely selected for your enjoyment.

■ Dolby Digital Surround EX

Dolby Digital EX creates 6 full-bandwidth output channels from 5.1-channel sources.
For the best results, Dolby Digital EX should be used with movie sound tracks recorded with Dolby Digital Surround EX. With this additional channel, you can experience more dynamic and realistic moving sound especially with scenes with "fly-over" and "fly-around" effects.

■ Dolby Digital Plus

Dolby Digital Plus is an advanced audio technology developed for high-definition programming and media including HD broadcasts, and Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers multichannel sound with discrete channel output. Supporting bitrates up to 6.0 Mbps, Dolby Digital Plus can carry up to 7.1 discreet audio channels simultaneously. Supported by HDMI version 1.3 and designed for the optical disc players and AV receivers/amplifiers of the future, Dolby Digital Plus also remains fully compatible with the existing multichannel audio systems that incorporate Dolby Digital.

■ Dolby Pro Logic II

Dolby Pro Logic II is an improved technique used to decode vast numbers of existing Dolby Surround sources. This new technology enables a discrete 5-channel playback with 2 front left and right channels, 1 center channel, and 2 surround left and right channels instead of only 1 surround channel for conventional Pro Logic technology. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources and "Game mode" for game sources.

■ Dolby Pro Logic IIx

Dolby Pro Logic IIx is a new technology enabling discrete multichannel playback from 2-channel or multi-channel sources. There are three modes available: "Music mode" for music sources, "Movie mode" for movie sources (for 2-channel sources only) and "Game mode" for game sources.

■ Dolby Surround

Dolby Surround is widely used with nearly all video tapes and laser discs, and in many TV and cable broadcasts as well. Dolby Surround uses a 4-channel analog recording system to reproduce realistic and dynamic sound effects: 2 front left and right channels (stereo), a center channel for dialog (monaural), and a surround channel for special sound effects (monaural). The surround channel reproduces sound within a narrow frequency range. The Dolby Pro Logic decoder built into this unit employs a digital signal processing system that automatically stabilizes the volume on each channel to enhance moving sound effects and directionality.

■ Dolby TrueHD

Dolby TrueHD is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience.
Supporting bitrates up to 18.0 Mbps, Dolby TrueHD can carry up to 8 discrete channels of 24-bit/96 kHz audio simultaneously.
Dolby TrueHD also remains fully compatible with the existing multichannel audio systems and retains the metadata capability of Dolby Digital, allowing dialog normalization and dynamic range control.

■ DSD

Direct Stream Digital (DSD) technology stores audio signals on digital storage media, such as Super Audio CDs. Using DSD, signals are stored as single bit values at a high-frequency sampling rate of 2.8224 MHz, while noise shaping and oversampling are used to reduce distortion, a common occurrence with very high quantization of audio signals. Due to the high sampling rate, better audio quality can be achieved than that offered by the PCM format used for normal audio CDs. The frequency is equal to or higher than 100 kHz and the dynamic range is 120 dB. This unit can transmit or receive DSD signals input from the HDMI jack.

■ DTS 96/24

DTS 96/24 offers an unprecedented level of audio quality for multi-channel sound on DVD video, and is fully backward-compatible with all DTS decoders. "96" refers to a 96 kHz sampling rate compared to the typical 48 kHz sampling rate. "24" refers to 24-bit word length. DTS 96/24 offers sound quality transparent to the original 96/24 master, and 96/24 5.1-channel sound with full-quality full-motion video for music programs and motion picture soundtracks on DVD video.

■ DTS Digital Surround

DTS digital surround was developed to replace the analog soundtracks of movies with a 5.1-channel digital sound track, and is now rapidly gaining popularity in movie theaters around the world. DTS, Inc. has developed a home theater system so that you can enjoy the depth of sound and natural spatial representation of DTS digital surround in your home. This system produces practically distortion-free 6-channel sound (technically, front left and right, center, surround left and right, and LFE 0.1 (subwoofer) channels for a total of 5.1 channels). This unit incorporates a DTS-ES decoder that enables 6.1-channel reproduction by adding the surround back channel to the existing 5.1-channel format.

■ DTS Express

This is an audio format for next-generation optical discs such as Blu-ray discs. It uses optimized low bit rate signals for network streaming. In the case of a Blu-ray disc, this format is used with secondary audio, enabling you to enjoy the commentary of the movie producer via the Internet while playing the main program.

■ DTS-HD High Resolution Audio

DTS-HD High Resolution Audio is a high resolution audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is virtually indistinguishable from the original, offering a high-definition home theater experience. Supporting bitrates up to 6.0 Mbps for Blu-ray Disc, DTS-HD High Resolution Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously.

DTS-HD High Resolution Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

■ DTS-HD Master Audio

DTS-HD Master Audio is an advanced lossless audio technology developed for high-definition disc-based media including Blu-ray Disc. Selected as an optional audio standard for Blu-ray Disc, this technology delivers sound that is bit-for-bit identical to the studio master, offering a high-definition home theater experience. Supporting bitrates up to 24.5 Mbps for Blu-ray Disc, DTS-HD Master Audio can carry up to 7.1 discrete channels of 24-bit/96 kHz audio simultaneously. Supported by HDMI version 1.3 and designed for the optical disc players and AV receivers/amplifiers of the future, DTS-HD Master Audio also remains fully compatible with the existing multichannel audio systems that incorporate DTS Digital Surround.

■ FLAC

This is a file format for lossless audio data compression. FLAC is inferior to lossy compression formats in compression rate but provides higher audio quality.

■ HDMI

HDMI (High-Definition Multimedia Interface) is the first industry-supported, uncompressed, all-digital audio/video interface. Providing an interface between any source (such as a set-top box or AV receiver) and an audio/video monitor (such as a digital television), HDMI supports standard, enhanced or high-definition video as well as multi-channel digital audio using a single cable. HDMI transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements and requirements.

When used in combination with HDCP (High-bandwidth Digital Content Protection), HDMI provides a secure audio/video interface that meets the security requirements of content providers and system operators. For further information on HDMI, visit the HDMI website at "http://www.hdmi.org/".

■ LFE 0.1 channel

This channel reproduces low-frequency signals. The frequency range of this channel is from 20 Hz to 120 Hz. This channel is counted as 0.1 because it only enforces a low-frequency range compared to the full-range reproduced by the other 5/6 channels in Dolby Digital or DTS 5.1/6.1-channel systems.

■ Neural Surround

Neural Surround represents the latest advancement in surround technology and has been adopted by XM Satellite Radio for digital radio broadcast of surround recordings and live events in surround sound. Neural Surround employs psychoacoustic frequency domain processing which allows delivery of a more detailed sound stage with superior channel separation and localization of audio elements. System playback is scalable from 5.1 to 7.1 multi-channel surround playback.

■ Neo:6

Neo:6 decodes the conventional 2-channel sources for 6- channel playback by the specific decoder. It enables playback with the full-range channels with higher separation just like digital discrete signal playback. There are two modes available: "Music mode" for music sources and "Cinema mode" for movie sources.

■ PCM (Linear PCM)

Linear PCM is a signal format under which an analog audio signal is digitized, recorded and transmitted without using any compression. This is used as a method of recording CDs and DVD audio. The PCM system uses a technique for sampling the size of the analog signal per very small unit of time. Standing for "Pulse Code Modulation", the analog signal is encoded as pulses and then modulated for recording.

■ Sampling frequency and number of quantized bits

When digitizing an analog audio signal, the number of times the signal is sampled per second is called the sampling frequency, while the degree of fineness when converting the sound level into a numeric value is called the number of quantized bits. The range of rates that can be played back is determined based on the sampling rate, while the dynamic range representing the sound level difference is determined by the number of quantized bits. In principle, the higher the sampling frequency, the wider the range of frequencies that can be played back, and the higher the number of quantized bits, the more finely the sound level can be reproduced.

■ "x.v.Color"

A color space standard supported by HDMI version 1.3. It is a more extensive color space than sRGB, and allows the expression of colors that could not be expressed before. While remaining compatible with the color gamut of sRGB standards, "x.v.Color" expands the color space and can thus produce more vivid, natural images. It is particularly effective for still pictures and computer graphics.

Sound field program information

■ Elements of a sound field

What really creates the rich, full tones of a live instrument are the multiple reflections from the walls of the room. In addition to making the sound live, these reflections enable us to tell where the player is situated as well as the size and shape of the room in which we are sitting. There are two distinct types of sound reflections that combine to make up the sound field in addition to the direct sound coming straight to our ears from the playerfs instrument.

Early reflections

Reflected sounds reach our ears extremely rapidly (50 ms to 100 ms after the direct sound), after reflecting from one surface only (for example, from a wall or the ceiling). Early reflections actually add clarity to the direct sound.

Reverberations

These are caused by reflections from more than one surface (for example, from the walls, and/or the ceiling) so numerous that they merge together to form a continuous sonic afterglow. They are nondirectional and lessen the clarity of the direct sound.

Direct sound, early reflections and subsequent reverberations taken together help us to determine the subjective size and shape of the room, and it is this information that the digital sound field processor reproduces in order to create sound fields.

If you could create the appropriate early reflections and subsequent reverberations in your listening room, you would be able to create your own listening environment.

The acoustics in your room could be changed to those of a concert hall, a dance floor, or a room with virtually any size at all. This ability to create sound fields at will is exactly what Yamaha has done with the digital sound field processor.

■ CINEMA DSP

Since the Dolby Surround and DTS systems were originally designed for use in movie theaters, their effect is best felt in a theater having many speakers designed for acoustic effects. Since home conditions, such as room size, wall material, number of speakers, and so on, can differ so widely, it is inevitable that there are differences in the sound heard.

Based on a wealth of actually measured data, Yamaha CINEMA DSP provides the audiovisual experience of a movie theater in the listening room of your own home by using the Yamaha original sound field technology combined with various digital audio systems.

■ CINEMA DSP 3D

The actually measured sound field data contain the information of the height of the sound images. CINEMA DSP 3D feature achieves the reproduction of the accurate height of the sound images so that it creates the accurate and intensive stereoscopic sound fields in a listening room.

■ SILENT CINEMA

Yamaha has developed a natural, realistic sound effect DSP algorithm for headphones. Parameters for headphones have been set for each sound field so that accurate representations of all the sound field programs can be enjoyed on headphones.

■ Virtual CINEMA DSP

Yamaha has developed a Virtual CINEMA DSP algorithm that allows you to enjoy DSP sound field surround effects even without any surround speakers by using virtual surround speakers. It is even possible to enjoy Virtual CINEMA DSP using a minimal two-speaker system that does not include a center speaker.

■ Compressed Music Enhancer

The Compressed Music Enhancer feature of this unit enhances your listening experience by regenerating the missing harmonics in a compression artifact. As a result, flattened complexity due to the loss of high-frequency fidelity as well as lack of bass due to the loss of low-frequency bass is compensated, providing improved performance of the overall sound system.

Information on HDMI™

■ HDMI signal compatibility

Audio signals

Audio signal types	Audio signal formats	Compatible media
2ch Linear PCM	2ch, 32 to 192 kHz, 16/20/24 bit	CD, DVD-Video, DVD-Audio, etc.
Multi-ch Linear PCM	8ch, 32 to 192 kHz, 16/20/24 bit	DVD-Audio, Blu-ray Disc, HD DVD, etc.
DSD	2/5.1ch, 2.8224 MHz, 1 bit	SA-CD, etc.
Bitstream	Dolby Digital, DTS	DVD-Video, etc.
Bitstream (High definition audio)	Dolby TrueHD, Dolby Digital Plus, DTS-HD Master Audio, DTS-HD High Resolution Audio, DTS Express	Blu-ray Disc, HD DVD, etc.

- If the input source component can decode the bitstream audio signals of audio commentaries, you can play back the audio sources with the audio commentaries mixed down by using the following connections:
  - multi-channel analog audio input (page 16)
  - digital input (OPTICAL or COAXIAL)
- Refer to the supplied instruction manuals of the input source component, and set the component appropriately.

Notes

- When CPPM copy-protected DVD-Audio is played back, video and audio signals may not be output depending on the type of the DVD player.
- This unit is not compatible with HDCP-incompatible HDMI or DVI components.
- To decode audio bitstream signals on this unit, set the input source component appropriately so that the component outputs the bitstream audio signals directly (does not decode the bitstream signals on the component). Refer to the supplied instruction manuals for details.
- This unit is not compatible with the audio commentary features (for example, the special audio contents downloaded via Internet) of Blu-ray Disc or HD DVD. This unit does not play back the audio commentaries of the Blu-ray Disc or HD DVD contents.

Video signals

This unit is compatible with the video signals of the following resolutions:

- 480i/60 Hz
- 576i/50 Hz
- 480p/60 Hz
- 576p/50 Hz
- 720p/60 Hz, 50 Hz
- 1080i/60 Hz, 50 Hz
- 1080p/60 Hz, 50 Hz, 24 Hz

Specifications

AUDIO SECTION

- Minimum RMS Output Power for Front, Center, Surround, Surround back
  - 20 Hz to 20 kHz, 0.08% THD, 8 Ω .... 105 W
- Dynamic Power (IHF)
  - Front Speakers 8/6/4/2 Ω .... 140/175/205/250 W
- Maximum Useful Output Power (JEITA)
  - [General, China, Korea and Asia models]
  - 1 kHz, 10% THD, 8 Ω .... 145 W
- Maximum Output Power [Europe, Russia and Asia models]
  - 1 kHz, 0.7% THD, 4 Ω .... 155 W
- Dynamic Headroom [U.S.A. and Canada models]
  - 8 Ω........ 1.25 dB
- IEC Output Power [Europe, Russia and Asia models]
  - Front Speakers 1 kHz, 0.08% THD, 8 Ω .... 115 W
- Input Sensitivity/Input Impedance
  - PHONO........ 3.5 mV/47 kΩ
  - AV5, etc........ 200 mV/47 kΩ
  - MULTI CH INPUT........ 200 mV/47 kΩ
- Maximum Input Voltage
  - PHONO (1 kHz, 0.1% THD)........ 60 mV or more
  - AV5, etc. (1 kHz, 0.5% THD)........ 2.0 V or more
- Rated Output Voltage/Output Impedance
  - AUDIO OUT........ 200 mV/1.2 kΩ
  - PRE OUT .... 1.0 V/1.2 kΩ
  - SUBWOOFER (2ch Stereo, Front Speaker: Small)
  - .... 1.0 V/1.2 kΩ
  - ZONE2 OUT........ 200 mV/1.2 kΩ
- Headphone Jack Rated Output/Impedance
  - AV5, etc. (1 kHz, 50 mV, 8 Ω)........ 100 mV/470 Ω
- Frequency Response
  - AV5 to FRONT .... 10 Hz to 100 kHz, +0/–3 dB
- RIAA Equalization Deviation
  - PHONO........ 0 ± 0.5 dB
- Total Harmonic Distortion
  - PHONO to AUDIO OUT
    - (20 Hz to 20 kHz, 1 V)........ 0.02% or less
  - AV5, etc. to FRONT, Pure Direct
    - (20 Hz to 20 kHz, 50 W, 8 Ω)........ 0.06% or less
- Signal to Noise Ratio (IHF-A Network)
  - PHONO Input Shorted (5.0 mV to AUDIO OUT)
  - [U.S.A., Canada, General and China models]........ 86 dB or more
  - [Other models] .... 81 dB or more
  - AV5, etc. Input Shorted (250 mV to Front Speakers)
  - .... 100 dB or more
- Residual Noise (IHF-A Network)
  - Front Speakers........ 150 µV or less
- Channel Separation (1 kHz/10 kHz)
  - PHONO (Input Shorted) .... 60 dB/55 dB or more
  - AV5, etc. (5.1 kΩ shortened)........ 60 dB/45 dB or more
- Volume Control .... Mute / –80 dB to +16.5 dB
- Tone Control (Front Speakers)
  - Bass Boost/Cut........ ±10 dB at 50 Hz
  - Bass Turnover Frequency........ 350 Hz
  - Treble Boost/Cut .... ±10 dB at 20 kHz
  - Treble Turnover Frequency .... 3.5 kHz
- Filter Characteristics (fc=40/60/80/90/100/110/120/160/200 Hz)
  - H.P.F. (Front, Center, Surround, Surround back: Small)
  - .... 12 dB/oct.
  - L.P.F. (Subwoofer) .... 24 dB/oct.

VIDEO SECTION

- Video Signal Type (Gray Back)
  - [U.S.A., Canada, General and Korea models]........ NTSC
  - [Other models]........ PAL
- Video Signal Type (Video Conversion) .... NTSC/PAL
- Signal Level
  - Composite........ 1 Vp-p/75 Ω
  - S-video [U.K., Europe and Russia models]
  - .... 1 Vp-p/75 Ω (Y), 0.286 Vp-p/75 Ω (C)
  - Component........ 1 Vp-p/75 Ω (Y)
- Maximum Input Level (Video Conversion: Off)
  - .... 1.5 Vp-p or more
- Signal to Noise Ratio........ 50 dB or more
- Frequency Response [MONITOR OUT]
  - Component (Video Conversion: Off)
  - .... 5 Hz to 60 MHz, –3 dB

FM SECTION

- Tuning Range
  - [U.S.A. and Canada models] .... 87.5 to 107.9 MHz
  - [General and Asia models] .... 87.5/87.50 to 108.0/108.00 MHz
  - [Other models]........ 87.50 to 108.00 MHz
- 50 dB Quieting Sensitivity (IHF)
  - Mono........ 3.0 µV (20.8 dBf)
- Signal to Noise Ratio (IHF)
  - Mono/Stereo .... 74 dB/70 dB
- Harmonic Distortion (1 kHz)
  - Mono/Stereo 0.3/0.3%
- Antenna Input (unbalanced) .... 75 Ω

AM SECTION

- Tuning Range
  - [U.S.A. and Canada models] .... 530 to 1710 kHz
  - [General and Asia models] .... 530/531 to 1710/1611 kHz
  - [Other models]........ 531 to 1611 kHz

GENERAL

- Power Supply
  - [U.S.A. and Canada models] .... AC 120 V, 60 Hz
  - [General model]........ AC 110/120/220/230–240 V, 50/60 Hz
  - [China model] .... AC 220 V, 50 Hz
  - [Korea model] .... AC 220 V, 60 Hz
  - [Australia model]........ AC 240 V, 50 Hz
  - [U.K., Europe and Russia models] .... AC 230 V, 50 Hz
  - [Asia model] .... AC 220/230–240 V, 50/60 Hz
- Power Consumption
  - [U.S.A. and Canada models] .... 400 W/500 VA
  - [Other models]........ 400 W
- Standby Power Consumption
  - (HDMI Control: Off, Standby Through: Off)........ 0.2 W or less
  - (HDMI Control: On, Standby Through: On)
    - No Repeat .... 1.2 W or less
    - Repeat .... 3 W or less
- Maximum Power Consumption
  - [General and Asia models] .... 590 W
- Dimensions (W x H x D)........ 435 x 171 x 365 mm
  - (17-1/8 x 6-3/4 x 14-3/8 in)
- Weight........ 11.1 kg (24.5 lbs)

* Specifications are subject to change without notice.

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“ⓚ**MAIN ZONE ON/OFF**” or “⑯**POWER**” (example) indicates the name of the parts on the front panel or the remote control. Refer to “Part names and functions” on page 4.

List of remote control codes

TV

A.R. Systems	0274
Acme	0260
Acura	0261, 0273
ADC	0259
Admiral	0100, 0224, 0257, 0258, 0259, 0264, 0265
Advent	0204
Adventura	0107
Adyson	0260, 0327, 0328
Agashi	0327, 0328
Agazi	0259
Aiko	0260, 0261, 0273, 0274, 0327, 0328
Aim	0274
Aiwa	0028, 0297
Akai	0063, 0096, 0101, 0205, 0231, 0261, 0262, 0268, 0271, 0273, 0274, 0327, 0328
Akiba	0262, 0274
Akura	0259, 0262, 0273, 0274
Alaron	0327
Alba	0243, 0260, 0261, 0262, 0266, 0269, 0271, 0273, 0274, 0294, 0300, 0327
Albatron	0222
Alcyon	0249
Alleron	0105
Allorgan	0328
Allstar	0268, 0274
America Action	0225
AMOi	0326
Amplivision	0243, 0260, 0275, 0328
Amstrad	0259, 0261, 0262, 0273, 0274
Amtron	0104
Anam	0225, 0261
Anam National	0102, 0104
Anglo	0261, 0273
Anitech	0249, 0259, 0261, 0273, 0274
Ansonic	0243, 0250, 0261, 0263, 0273, 0274
AOC	0072, 0090, 0096, 0103
Apex	0061, 0117, 0139
Arcam	0327, 0328
Arcam Delta	0260
Aristona	0268, 0271, 0274
Arthur Martin	0275
ASA	0257, 0265
Asberg	0249, 0268, 0274
Astra	0261
Asuka	0259, 0260, 0262, 0327, 0328
Atlantic	0260, 0268, 0271, 0274, 0327
Atori	0261, 0273
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Awa	0327, 0328
Axion	0206
Baird	0328
Bang & Olufsen	0230, 0257
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Belcor	0090
Bell & Howell	0065, 0100
Benq	0051, 0160, 0315
Beon	0268, 0271, 0274
Best	0243
Bestar	0243, 0268, 0274
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Brinkmann	0274
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Britannia	0260, 0327, 0328
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Broksonic	0063, 0225
Bruns	0257
BTC	0262
Bush	0261, 0262, 0264, 0266, 0268, 0270, 0271, 0273, 0274, 0282, 0286, 0294, 0300, 0328, 0329, 0351, 0388, 0394, 0413
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Additional feature

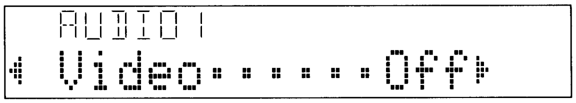
Now you can select the video to be output when "AUDIO1" or "AUDIO2" is selected as the input source.
For example, if you want to use an external component with analog audio and component video (or composite) output jacks; connect the analog audio output jacks of the external component to the AUDIO 1 or AUDIO 2 jacks of this unit while making a video connection (component video or composite).
Then follow the procedure below to select the video to be output when "AUDIO1" or "AUDIO2" is selected as the input source.

1 Rotate the Ⓡ INPUT selector (or press [4] AUDIO 1 or [4] AUDIO 2) to select "AUDIO1" or "AUDIO2" as the input source.

2 Press [18] OPTION on the remote control.

The Option menu for "AUDIO1" or "AUDIO2" is displayed.

3 Press [10] Cursor △ / ▽ to select "Video Out" and then press [10] ENTER.



AUDIO1

◂ Video.......Off ▸

4 Press [10] Cursor ◁ / ▷ to select a video input jack to be used when "AUDIO1" or "AUDIO2" is selected as the input source and then press [10] ENTER.

- AV1-2 (COMPONENT VIDEO)
- AV3-6 (VIDEO)
- V-AUX (VIDEO)
- Off (no video output)

- "Off" is selected by default.

5 To exit the Option menu, press [18] OPTION.

Information about software

About FLAC codec library

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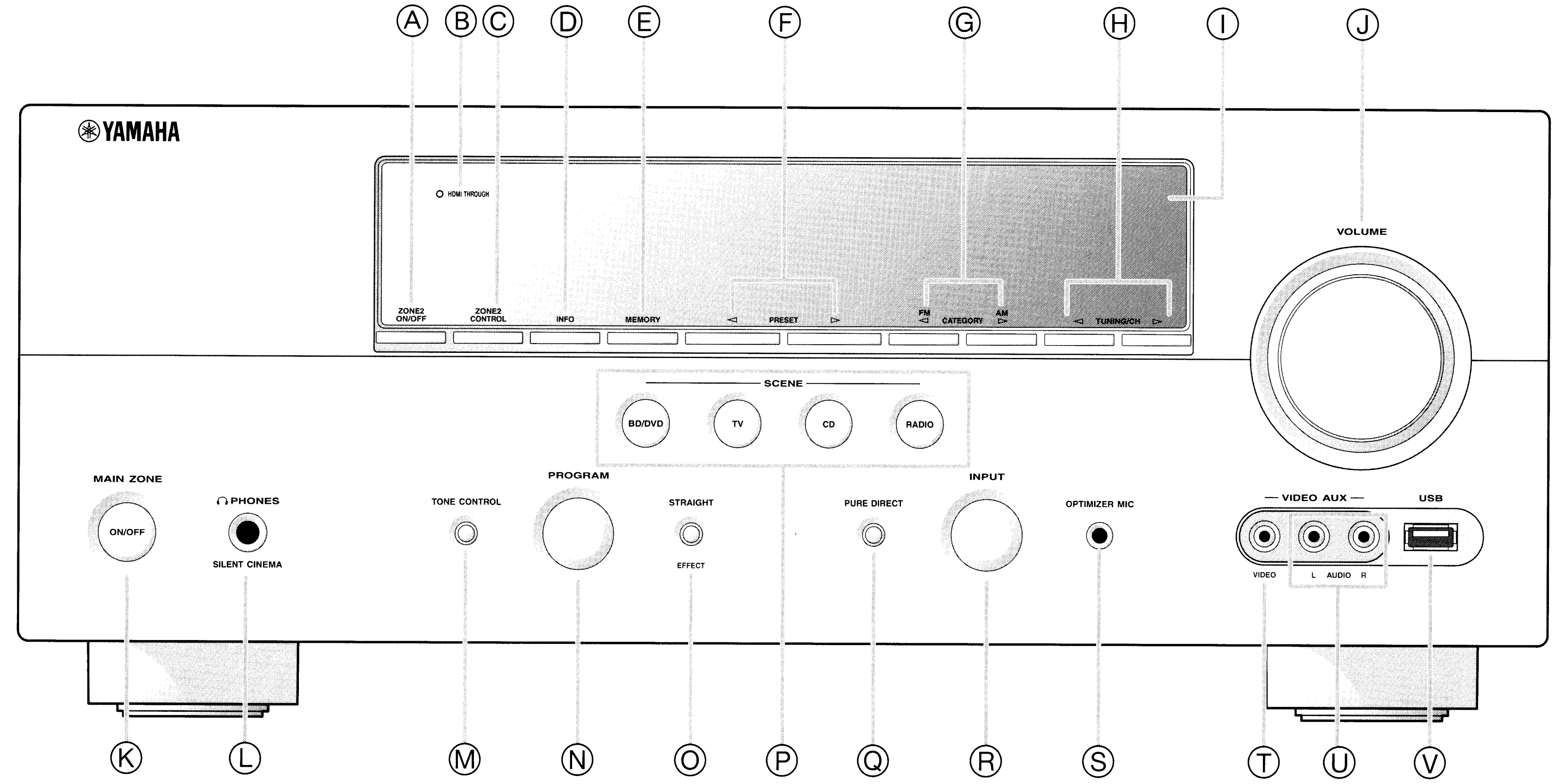
The letters in circles and the numbers in squares correspond to those in the Owner's Manual.

■ Front panel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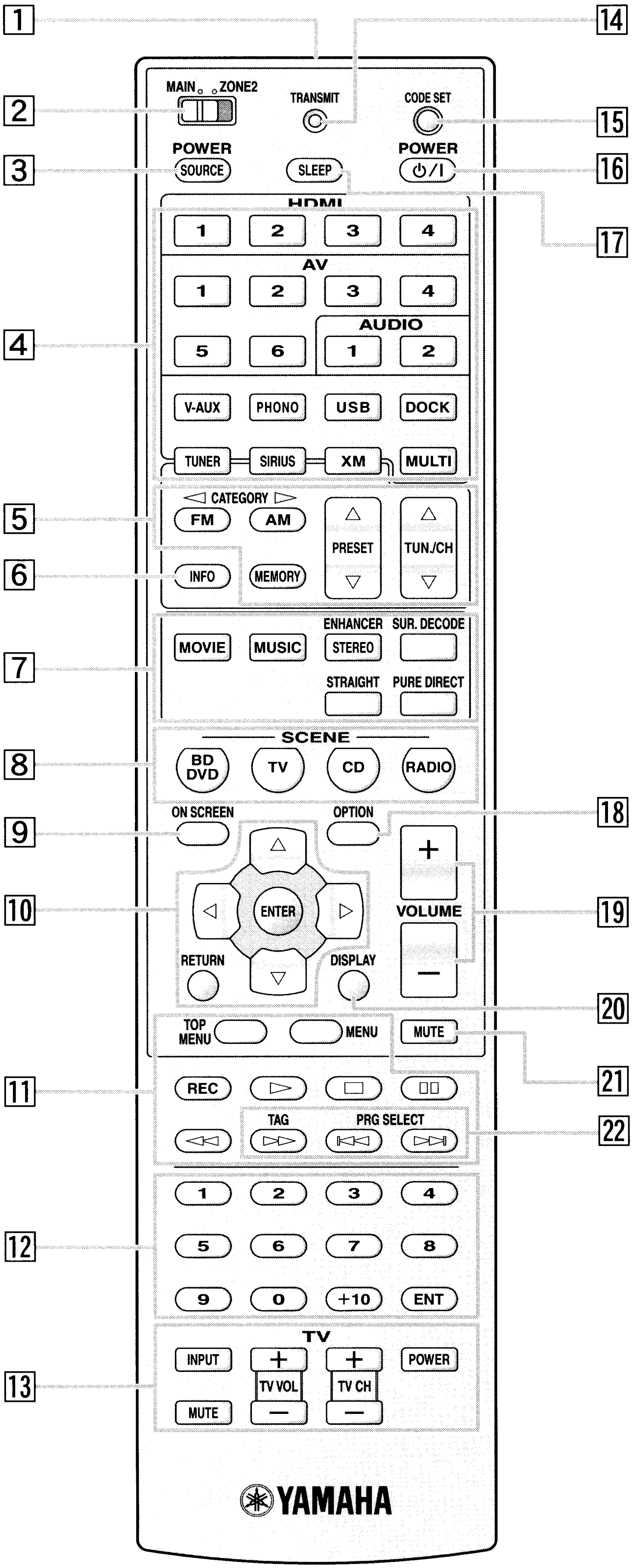
■ Remote control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XM monthly service subscription sold separately. XM Mini-Tuner and Home Dock required (each sold separately) to receive XM service. Installation costs and other fees and taxes, including a one-time activation fee may apply. All fees and programming subject to change. Channels with frequent explicit language are indicated with an XL. Channel blocking is available for XM radio receivers by calling 1-800-XMRADIO (US residents) and 1-877-GETXMSR (Canadian residents). For a full listing of the XM commercial- free channels and advertising-supported channels, visit lineup.xmradio.com (US residents) or xmradio.ca (Canadian residents). Subscriptions subject to Customer Agreement available at xmradio.com (US residents) and xmradio.ca (Canadian residents). Only available in the 48 contiguous United States and Canada. ©2008 XM Satellite Radio Inc. All rights reserved. All other trademarks are the property of their respective owners. XM Ready is a registered trademark of XM Satellite Radio Inc. NHL is a registered trademark and the NHL Shield is a trademark of the National Hockey League. ©NHL 2008. All Rights Reserved. Major League Baseball trademarks and copyrights are used with permission of Major League Baseball Properties, Inc. Visit the official website at MLB.com. All other trademarks are the property of their respective owners.

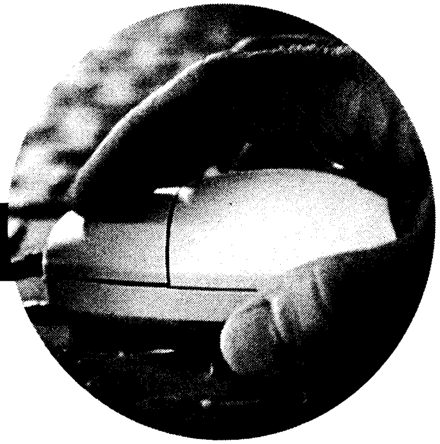
Part Number: XMT-ITB-1107 **Yamaha Parts No. X9797B0**

YAMAHA

Registering Your New Yamaha Product is Fast and Easy

Thank you for purchasing a new product from Yamaha Electronics. We'd like to continue providing you with high quality products and better service. So, we've made it simple to register your new product purchase online. Please take a few minutes to visit our website at **www.yamaha.com/YEC/registration/** and complete the information and questions included there. We appreciate your business and we look forward to hearing from you.

Failure to complete the registration form does not diminish your warranty rights in any way.



Register online at **www.yamaha.com/YEC/registration/**

Product registration applies to USA customers only.

WF15740

YAMAHA Home Audio products are designed and manufactured to provide a high level of trouble-free performance. YAMAHA Electronics Corporation, USA, is proud of the experienced craftsmanship that goes into each and every YAMAHA Home Audio product. YAMAHA sells its Home Audio products only through a network of high quality, specially authorized dealers and is pleased to offer the following Limited Warranty, which applies only to products purchased from our authorized dealers. YAMAHA Home Audio products are backed by a nationwide network of high quality YAMAHA Authorized Service Centers, providing prompt, courteous, and professional service. We suggest that you read the Limited Warranty thoroughly, and invite you to contact your authorized YAMAHA dealer or the YAMAHA Electronics Corporation, USA, Service Department if you have any questions.

YAMAHA

➢ LIMITED WARRANTY ≺

HOME AUDIO PRODUCTS

Type of Product	Duration of Warranty (beginning from first consumer purchase)
A/V and Stereo Receivers, Processor and Integrated Amplifiers, Separate Amplifiers and Preamplifiers, Tuners, CD Players and Changers, HDD Players and Recorders, Powered Loudspeakers, Media Controllers and Speaker Systems purchased individually, as a pair, or as part of an Integrated or Packaged system.	2 years
Cassette Decks, BLU-RAY Disc Players, DVD Players and Changers, Integrated Systems (Receiver or Amplifier combined or on same chassis with CD or DVD Player), Desktop Audio Systems (i.e. TSX and PDX Series), Multimedia Speakers and Accessories.	1 year

What is Covered and what is Not Covered:

This warranty covers all defects in materials or workmanship in this product, but DOES NOT COVER the following:

(1) Damage, deterioration or malfunction resulting from:
  a. Accident, negligence, misuse, abuse, improper installation or operation or failure to follow instructions contained in your Owner's Manual.
  b. Any shipment of the product. (Claims must be presented to the carrier.)
  c. Repair or attempted repair by anyone other than YAMAHA or an authorized YAMAHA Service Center.
(2) Any unit which has been altered or on which the serial number has been defaced, modified or removed.
(3) Normal wear, battery replacement and any periodic maintenance.
(4) Any unit which has not been purchased from an authorized YAMAHA Home Audio dealer in the USA. If you are uncertain as to whether a dealer has been authorized by YAMAHA, please contact YAMAHA's Service Department.
(5) Any unit used for industrial or commercial purposes.

Who may enforce the warranty:

This warranty is enforceable only by the original purchaser.

What we will pay for and what you must pay for:

YAMAHA will repair or replace units covered by this warranty, without charge to the consumer for labor or materials. Some repair parts may be used or rebuilt replacements, that meet or exceed Yamaha specifications for new parts, in exchange for defective parts. YOU ARE RESPONSIBLE FOR ANY INSTALLATION OR REMOVAL CHARGES AND FOR ANY INITIAL SHIPPING CHARGES, if the product(s) must be shipped for warranty service. However, we will pay the return shipping charges to any destination within the USA if the repairs are covered by the warranty.

How you can get Warranty Service:

(1) If your YAMAHA product(s) require service, contact the authorized YAMAHA dealer and the dealer will advise you of the procedures to be followed. If this is not practical, contact YAMAHA at the address, telephone number or Internet URL shown below. We may request that you send the defective product(s) to a local authorized YAMAHA Service Center, to an authorized YAMAHA Regional Service Center, or authorize return of the defective product(s) to YAMAHA for repair.
(2) Product(s) shipped for service should be packed securely and must be accompanied by a detailed explanation of the problem(s) requiring service, as well as your sales receipt or other proof of date and place of purchase, as evidence of warranty coverage.
(3) Warranty registration is not required for warranty coverage.

Limitation of Implied Warranties:

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

Exclusion of Damages:

YAMAHA'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, AT OUR OPTION. IF WE ELECT TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. YAMAHA SHALL NOT BE LIABLE FOR DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE. OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS AND/OR DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS AND EXCLUSIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Should you have any questions about service received or if you need assistance in locating an authorized YAMAHA Service Center, please contact:

YAMAHA

SERVICE DEPARTMENT

YAMAHA Electronics Corporation, USA
6660 Orangethorpe Avenue, Buena Park, California 90620-1345
Telephone: (800) 292-2982, 8 AM to 4 PM Pacific time
Internet URL: http://www.yamaha.com/yec/

Do not return any product to the above address; it is not a service location. YAMAHA products are backed by a nationwide network of high quality YAMAHA authorized Service Centers, providing prompt, courteous and professional service. **For referral to your nearest authorized YAMAHA Preferred Customer Service Center or authorized YAMAHA Regional Service Center call 1-800-4 YAMAHA.**